2.2 Biological Resources

Focused biological surveys for the proposed Project site were conducted by Helix Environmental from 2000-2008 and their findings are recorded in a report entitled, "Otay Business Park, Biological Technical Report" (June 23, 2010). A copy of this study is provided in Appendix C1 of this SEIR. Specific survey dates and methodologies are listed in the biological technical report. In addition, several technical reports have been prepared to identify specific requirements for restoration and management of areas proposed as mitigation for the Project's impacts to biological resources. These reports include the following: "Otay Business Park Off-Site Biological Open Space at Lonestar Ridge – Resource Management Plan," June 23, 2010 (SEIR Appendix C2); "Otay Business Park On-Site Resources Management Plan," June 23, 2020 (SEIR Appendix C3); "Vernal Pool Preserve Restoration Plan for Otay Business Park," July 2, 2010 (SEIR Appendix C4); and "San Diego Marsh-Elder Translocation Plan for Otay Business Park," July 2, 2010 (SEIR Appendix C5).

2.2.1 Existing Conditions

The Project site is located within the South County Segment of the County of San Diego's Multiple Species Conservation Program (MSCP) Subarea Plan and contains areas designated as Minor Amendment Areas and Minor Amendment Areas Subject to Special Consideration. The Project site does not function as a wildlife corridor for the region.

Figure 2.2-1, *Vegetation and Sensitive Species Map,* depicts the extent and locations of the various existing on-site vegetation communities and observed sensitive species. During site surveys by the project biologist, eight (8) sensitive plant species were observed on-site: small-flowered morning-glory, variegated dudleya, San Diego button-celery, San Diego barrel cactus, chocolate lily, San Diego marsh-elder, spreading navarretia, and ashy spike-moss. Eleven (11) sensitive animal species were observed on-site, including San Diego fairy shrimp, Quino checkerspot butterfly, Riverside fairy shrimp, western spadefoot toad, two-striped garter snake, grasshopper sparrow, burrowing owl, northern harrier, white-tailed kite, California horned lark and loggerhead shrike. Additionally, the Project site is located within the reported territory of a golden eagle. Other plant and animal species observed on-site are documented in the biological technical report, provided as Appendix C to this EIR.

Six (6) vegetation communities occur on the Project site: vernal pools, saltgrass grassland, non-native grassland, road pools, disturbed habitat, and developed land. Additionally, freshwater marsh occurs near the off-site improvement areas. Of the seven vegetation communities that occur on- and off-site, vernal pools, freshwater marsh, non-native grassland, and native grassland are considered sensitive communities. A summary of these on- and off-site vegetation communities is provided below.

- **Vernal Pools (Tier I Habitat).** Vernal pools are highly specialized communities that are formed under specific physical conditions, including a subsurface hardpan or claypan that causes ponding by inhibiting the downward percolation of water, usually with a topography characterized by a series of low hummocks (mima mounds) and depressions (vernal pools). They fill with rain during the winter and spring, and dry during the summer. A specialized assembly of plants and animals are adapted to this hydrologic regime, completing their life cycles during the wet portion of the year, and lying dormant during the dry season. Certain plants indicate the presence of vernal pools. The pools on-site are highly disturbed and

exhibit very low species cover and richness. Years of agriculture, off-road vehicle use, and U.S. Border Patrol activity have reduced cover by vernal pool indicator species, leaving most of the pools almost completely unvegetated throughout the year, including during the rainy season. Each of the vernal pools had one or more of the following vernal pool indicator species (although the indicator species' cover did not approach 1% in any pool): San Diego button-celery (*Eryngium aristulatum*), spreading navarretia (*Navarretia fossalis*), toothed downingia (*Downingia cuspidate)*, flowering quillwort *(Lilaea scillioides*), and water pygmyweed (*Crassula aquatica*). Vernal pool habitat is a Tier I habitat under the Biological Mitigation Ordinance (BMO) because they support a number of sensitive plant and animal species, are limited in distribution, and are declining in area. Ten (10) vernal pools occur within the southern portion of the Project site, and have a combined surface area of 0.21 acre. There are no vernal pools within the off-site improvement areas.

- **Freshwater Marsh (Tier I Habitat).** Freshwater marsh generally is dominated by perennial, emergent monocots, such as cattails (*Typha latifolia*), up to 12 feet tall, often forming completely closed canopies. As a wetland vegetation community, freshwater marsh is considered a Tier I habitat under the County's BMO. Although no freshwater marsh was mapped on-site a small area of cattails occurs off-site along the proposed extension of Siempre Viva Road to the west.

- **Saltgrass Grassland (Tier I Habitat).** Saltgrass grassland is a community dominated by perennial native grasses. The on-site patches are dominated by saltgrass (*Distichlis spicata*) intermingled with upland non-native grasses such as oats (*Avena* spp.). The Project site supports 0.19 acre of saltgrass grassland, occurring in two patches alongside the drainage in the northeastern portion of the site; no saltgrass grasslands were mapped in the off-site portion of the study area. Saltgrass grassland is identified as a Tier I habitat under the BMO.

- **Non-native Grassland (Tier III Habitat).** Non-native grassland consists of introduced grasses, often associated with native forbs. It is characterized by oats, foxtail chess (*Bromus madritensis* ssp. *rubens*), common ripgut grass (*Bromus diandrus*), filaree (*Erodium* spp.), and mustards (*Brassica nigra* and *Hirschfeldia incana*) as well as scattered purple needlegrass. Non-native grassland is identified as a Tier III habitat under the BMO due to its potential to provide foraging habitat for raptors. Non-native grassland is the dominant vegetation community on-site, covering approximately 152.82 acres on-site. Non-native grassland is also abundant in the off-site improvement areas.

- **Road Pools (Tier IV Habitat).** Road pools are ephemeral water-holding basins formed on heavily compacted dirt in dirt trails and roads that lack vernal pool indicator species. Such standing water has potential to support sensitive animal species such as San Diego and Riverside fairy shrimp and spadefoot toads. Within the context of this Project, only basins that support San Diego or Riverside fairy shrimp are mapped as road pools; basins without fairy shrimp represent essentially puddles within other vegetation communities and are mapped as a part of the surrounding community. Ten (10) road pools occur in the southern portion of the site totaling 0.05 acre, and an additional four (4) road pools were mapped off-site, three of which occur within the off-site road improvement area.

- **Disturbed Habitat (Tier IV Habitat).** Disturbed habitat consists of land that has been cleared of vegetation or where the soil has been compacted. Within the Project area, this

habitat is mainly the result of minor dirt roads used by the U.S. Border Patrol Service. In addition to areas of exposed, packed dirt, the disturbed habitat on-site includes areas dominated by mustard and Russian thistle (*Salsola tragus*). Included within the Disturbed Habitat is an approximate 0.1-acre ephemeral pond, which occurs in a shallow depression at the southern end of an existing drainage where a road constructed along the border fence forms a dam, causing water to pool before draining east along the road and then off-site through a culvert into Mexico. This pond is sparsely vegetated with curly dock, mustard, and western sunflower (*Helianthus* i.) and was not mapped as a vegetation community separate from the disturbed habitat in which it occurs. This habitat comprises 8.06 acres on-site and an additional 2.92 acres within the off-site improvement areas.

- **Developed (Tier IV Habitat).** Developed land on-site is limited to a portion of a gravel road in the southeastern corner of the site as well as a small structure near the northwestern boundary of the site, occupying approximately 0.27 acre. An additional 1.14 acre of developed land occurs within the off-site improvement areas and consists primarily of existing unimproved dirt roadways (Alta Road, along with portions of Siempre Vive Road and Airway Road).

2.2.2 Analysis of Project Effects and Determination as to Significance

2.2.2.1 East Otay Mesa Specific Plan Final EIR

The Final EIR for the EOMSP concluded that implementation of the uses envisioned by the EOMSP, including the proposed Project, would result in significant and unmitigable impacts to biological resources as follows:

- Direct impacts to 27 acres of Stipa grassland and 400 acres of non-native grassland;
- Direct impacts to the vernal pool J-22 Complex and potential vernal pool habitat near the border;
- Direct impacts to 834 acres of Coastal sage scrub (including approximately 280 acres within the industrial portions of the EOMSP area);
- Direct impacts to sensitive plant species, including the San Diego button-celery, Dunn's mariposa lily, variegated dudleya, San Diego marsh-elder, and Otay tarplant;
- Direct impacts to sensitive animal species, including the western spadefoot toad, burrowing owl, raptors, and vernal pool species; and
- Direct impacts to 18 pairs of California gnatcatchers and indirect impacts to an additional four pairs.

The EOMSP Final EIR was certified in 1994, and reflects the biological and regulatory conditions that existed at that time. Since certification of the EOMSP Final EIR, a number of circumstances within the EOMSP area have changed. Since 1994, several new species have since been listed as threatened or endangered by the USFWS and/or CDFG. Furthermore, the biological conditions of the Project site likely have changed and updated surveys are necessary to accurately document the current conditions of the Project area. Moreover, in 1997, the County of San Diego adopted a MSCP Subarea Plan for the southern portions of the County and adopted the BMO to implement the Subarea Plan. The Project site lies within the South County MSCP boundaries, and the majority of the site is classified as a Minor Amendment Area within the MSCP, while the southern portion is designated as a Minor Amendment Area Subject to Special Considerations. In order for future development proposals to be approved and take authorization to be given to the Project applicant, the

Amendment process shall first be completed as specified in the MSCP Subarea Plan. The County is undergoing the Amendment process for the Quino checkerspot butterfly for the entire County MSCP Subarea, including the Major and Minor Amendment Areas within the project area.

Processing of a Minor Amendment to the MSCP requires preparation of a CEQA document, a biological resources report, identification of any mitigation required by the BMO, and concurrence by the local offices of the USFWS and CDFG. The Amendment process also requires that the protection of MSCP covered species be addressed. If a project satisfies the preservation requirements of the Federal and California ESAs and NCCP, then the MSCP can be amended to include the project site, and take authorization for covered species can be issued. Plant species that will be addressed by the Amendment include Otay tarplant, variegated dudleya, and San Diego barrel cactus. Animal species that will be addressed by the Amendment include the coastal California gnatcatcher, burrowing owl, coast horned lizard, northern harrier, golden eagle, and southern California rufous-crowned sparrow. Typically, at least 80 percent of County List A and B plant species must be avoided by a project.

Therefore, based on the potential for new impacts to biological resources that were not previously disclosed, and because the circumstances under which the Project would be undertaken have changed since the EOMSP EIR was certified in 1994, the County of San Diego has determined that a supplemental analysis of biological impacts is required in order to identify, disclose, and mitigate for any new impacts resulting from Project implementation.

2.2.2.2 Special Status Species

Guidelines for Determination of Significance

The Project would have a significant adverse effect on biological resources if the following would occur as a result of a Project-related component:

(1) The proposed Project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

This significance threshold is studied in this EIR to determine if the proposed Project would impact sensitive plant and animal species. Plant and animal species identified as endangered or threatened on federal and/or federal lists, as well as species identified as sensitive by the County, are included in this threshold. Impacts to a sensitive species would result in adverse impacts and mitigation would be required.

Analysis

As depicted on Figure 2.2-1, *Vegetation and Sensitive Species Location Map*, a total of eight (8) sensitive plant species were detected on the proposed Project site, and include small-flowered morning-glory (*Convolvulus simulans*), variegated dudleya (*Dudleya variegata*), San Diego button-celery, San Diego barrel cactus (*Ferocactus viridescens*), chocolate lily (*Fritillaria biflora*), San Diego marsh-elder (*Iva hayesiana*), spreading navarretia (*Navarretia fossalis*), and ashy spike-moss (*Selaginella cineracens*). A full listing of all sensitive plant species with a potential to occur on-site or within the off-site impact areas is provided in Table 2.2-3, *County Sensitive Plant Species Observed or with Potential to Occur*, provided at the end of this section. Implementation of the

proposed Project would result in direct impacts to all of the sensitive plants recorded on the Project site, including three List A species, two List B species and three List D species, as discussed below.

List A Plants (Plants rare, threatened or endangered in California and elsewhere)

Variegated dudleya (*Dudleya variegata*). Variegated dudleya is a narrow endemic species that occurs on a shallow hill in the south-central portion of the site. The proposed Project would directly impact approximately 3,465 individuals, and this impact would be considered significant because the Project would fail to meet the required 80% avoidance of this species, as required by the MSCP **(Significant Direct and Cumulative Impact BI-1)**.

San Diego button-celery (*Eryngium aristulatum* ssp. *Parishii*). San Diego button-celery occurs within the large vernal pool along a dirt road in the eastern portion of the site. Three individuals were recorded and the proposed Project would impact all three individuals. Impacts to this MSCP-covered species are evaluated as significant because the Project would fail to meet the required 80% avoidance of this species, as required by the MSCP **(Significant Direct and Cumulative Impact BI-2)**.

Spreading navarretia (*Navarretia fossalis*). Spreading navarretia occurs within a vernal pool along a dirt road in the eastern portion of the site. Three individuals were recorded and the proposed Project would impact all three individuals. Impacts to this MSCP-covered species are evaluated as significant because the Project would fail to meet the required 80% avoidance of this species, as required by the MSCP **(Significant Direct and Cumulative Impact BI-3)**.

List B Plants (Plants rare, threatened or endangered in California but more common elsewhere)

San Diego barrel cactus (*Ferocactus viridescens*). Thirty-one (31) individuals are located on a hill in the south-central portion of the site. The Project would impact all barrel cacti on-site. This impact is considered significant because the Project would fail to meet the required 80% avoidance of this species, as required by the MSCP **(Significant Direct and Cumulative Impact BI-4)**.

San Diego marsh-elder (*Iva hayesiana*). Eleven (11) individuals reside along the north-south drainage in the northeastern quadrant of the site. Project-related grading activities would be unable to avoid this species and impacts from the Project could be considered detrimental to the regional long-term survival of the San Diego marsh elder. Therefore, a significant impact would occur and mitigation would be required **(Significant Direct and Cumulative Impact BI-5)**.

List D Plants (Plants of limited distribution and uncommon, but not presently rare or endangered)

Small-flowered morning-glory (*Convolvulus simulans*). Five individuals were seen in the northern portion of the site, four just south of a dirt road along the northern boundary. The small-flowered morning-glory on-site represent a small island of individuals isolated from the nearest conspecifics by a large area of dense non-native grassland. The on-site population of this plant represents a small percentage of the local population in the Otay Mesa area. As a result, these individuals likely contribute little to the local population and provide little preservation value, and impacts to this species would not impact the long-term survival of the species. Therefore, Project-related impacts would not be considered significant.

Chocolate lily (*Fritillaria biflora*). Four individuals were incidentally observed in the central portion of the site, just west of the coast barrel cacti, during a site visit in February 2008 to assess

whether the pools on-site are subject to the RPO. The biological resources surveys were conducted too late in the spring to observe this early spring-blooming species. This species has been and is being impacted by projects throughout the Otay Mesa region. The impact to this species is considered significant for the Otay Mesa region but not significant on a larger scale **(Significant Direct and Cumulative Impact BI-6)**.

Ashy spike-moss (*Selaginella cineracens*). One location supporting ashy spike-moss was observed in the south-central portion of the site, just north of a vernal pool. The on-site population of ashy spike-moss is small and isolated and does not represent a critical population of this species. Accordingly, the on-site ashy spike-moss likely contributes little to the local population and provides little preservation value, and impacts to this species would not impact the long-term survival of the species. Therefore, Project-related impacts to on-site ashy spike-moss would be less than significant.

Sensitive Wildlife Species Impacts

Project implementation would directly impact the observed locations of ten (10) sensitive animal species, including three sensitive invertebrates (San Diego fairy shrimp, Riverside fairy shrimp, and Quino checkerspot butterfly), one sensitive amphibian (western spadefoot toad), and six sensitive birds (grasshopper sparrow, burrowing owl, northern harrier, white-tailed kite, California horned lark, and loggerhead shrike). Additionally, the Project would impact one sensitive species, the golden eagle, by reducing the amount of non-native grassland, an important foraging habitat. Also, the Project has the potential to indirectly impact a drainage where a single individual of two-striped garter snake was observed. These impacts are discussed in further detail below.

A full listing of all sensitive animal species with a potential to occur on-site or within the off-site impact areas is provided in Table 2.2-4, *County Sensitive Animal Species Observed or with Potential to Occur*, provided at the end of this section.

San Diego fairy shrimp (*Branchinecta sandiegonensis*) is included on the Federal Endangered Species List and found in seasonal shallow vernal pools, often in patches of grassland and agriculture interspersed in coastal sage scrub and chaparral. Their observed location in one vernal pool, all nine road pools on-site, and three road pools off-site would be directly impacted by the proposed Project. Approximately 114.4 acres of habitat that is considered Critical Habitat for the San Diego fairy shrimp also would be impacted. The loss of San Diego fairy shrimp habitat and potential loss of San Diego fairy shrimp is significant and mitigation would be required **(Significant Direct and Cumulative Impact BI-7).**

Riverside fairy shrimp (*Streptocephalus woottoni*) is included on the Federal Endangered Species List and are found in vernal pools and other ephemeral basins in Northern Mexico (Baja), Riverside, Orange, and San Diego Counties. This species was observed in one vernal pool on-site, two road pools on-site, and one road pool off-site, all of which would be impacted by the Project. Project related impacts to Riverside fairy shrimp would be considered a significant direct impact and mitigation would be required **(Significant Direct and Cumulative Impact BI-8)**.

Quino checkerspot butterfly (*Euphydryas editha quino*) is included on the Federal Endangered Species List and is historically found through Los Angeles, Riverside, Orange, and San Diego counties, as well as northern Baja California. Although none were observed on-site during the 2006 field surveys, a biological survey detected a single individual on a hill in the south-central portion of

the site in 2005, and the area where this individual was observed would be impacted by Project development. Larval host plants for the Quino checkerspot butterfly and potential nectar plants for the butterfly were also detected on-site. All impacts to the Quino checkerspot butterfly are considered significant **(Significant Direct and Cumulative Impact BI-9)**.

Western spadefoot toad (*Spea hammondii*) is a California Species of Special Concern that is threatened by loss of habitat. Larvae and/or neonates were observed in two vernal pools and one road pool on-site. Project implementation would result in direct impacts to the habitat of the western spadefoot toad. The western spadefoot toad has been reported in a relatively large number of locations throughout Otay Mesa, many of which provide higher quality habitat (open sage scrub as opposed to grassland) than that provided on the proposed Project site. Implementation of the proposed Project would result in direct impacts to all on-site western spadefoot toads; however, such impacts would not adversely affect the regional long-term survival of the species. For this reason, Project-related impacts to the western spadefoot toad are evaluated as less than significant.

Two-striped garter snake (*Thamnophis hammondii*) is a California Species of Special Concern that is typically found along permanent and intermittent streams bounded by dense riparian vegetation, as well as in vernal pools and stock ponds. Although not observed on site, a single individual of two-striped garter snake was observed within a drainage just off-site to the north. Although potentially suitable habitat occurs within the on-site drainage, it is considered of marginal suitability due to ephemeral flows and lack of riparian vegetation. As such, the drainage is not expected to support a population of two-striped garter snake and project construction would not have a substantial adverse effect on this species. For these reasons, Project impacts to the two-striped garter snake are evaluated as less than significant.

Grasshopper sparrow (*Ammodramus savannarum*) is a migratory bird that is found in coastal California climates during the summer months and in Mexico and South American climates in the winter. They live primarily in dense grasslands with low shrub cover, which is found throughout the Project site. The observed location of one sparrow in the center of the site along the northern slope of the hill would be directly impacted by the proposed Project. Additionally, the entire 161.6-acre Project site is considered suitable habitat for the species and would be impacted by Project development. These impacts would be considered significant for List 1 species since greater than 5% of the on-site population would be impacted (**Significant Direct and Cumulative Impact BI-10**).

Burrowing owl (*Athene cunicularia*) is a California Species of Special Concern, found throughout the U.S. and northern Mexico. Six occupied burrows and two individual owls were spotted on the Project site, and three additional burrows and one separate individual owl were detected within 100 feet of the site. Of the nine owl burrows mapped during biological surveys, Project implementation would result in direct impacts to seven burrows. However, because all of the grassland on-site and in the off-site portion of the study area is considered occupied, approximately 163.41 acres of occupied habitat would be impacted by Project development. The impact to burrowing owls and their habitat is considered significant and mitigation would be required **(Significant Direct and Cumulative Impact BI-11)**.

Northern Harrier (*Circus cyaneus*) is listed as a California Species of Special Concern and is found throughout temperate regions of North America and Eurasia. They are a migratory bird that can live in climates ranging from below sea level up to 9,800 feet. Their habitats are coastal salt and freshwater marshlands, grasslands, and prairies. A single harrier was seen flying over the central

portion of the site and one individual was observed off-site to the southwest, and the entire 161.6-acre Project site supports potentially suitable habitat for this species. Impacts to on-site habitat for this species would be considered significant since greater than 5% of the on-site habitat for the species would be impacted by Project development (**Significant Direct and Cumulative Impact BI-12)**.

White-tailed kite (*Elanus leucurus*) is a Fully Protected species found primarily throughout the coastal slopes of San Diego County. The observed location of one individual flying over the central portion of the site would be directly impacted by the proposed Project, as would the entire 161.6-acre Project site which contains potentially suitable habitat for this species. Impacts to on-site habitat for this species would be considered significant for List 1 species since greater than 5% of the on-site habitat for the species would be impacted by Project development (**Significant Direct and Cumulative Impact BI-13)**.

California horned lark (*Eremophila alpestris actia*) is a California Species of Special Concern found from Sonoma County to northern Baja. One individual was seen flying just below the eastern slopes of the hill in the south-central portion of the site. In addition, the entire 161.6-acre Project site contains suitable habitat for this species. Impacts to on-site habitat for this species would be considered significant since greater than 5% of the on-site habitat for the species would be impacted by Project development, which exceeds the allowable impact for List 1 species (**Significant Direct and Cumulative Impact BI-14)**.

Loggerhead shrike (*Lanius ludovicianus*) is also a California Species of Special Concern and its numbers are declining in North America. They require open spaces such as grasslands, shrublands, and ruderal areas with perching locations. A single bird was observed on-site in disturbed habitat in the southeastern portion of the site and two were seen off-site to the south and southwest. In addition, the entire 161.6-acre Project site contains suitable habitat for this species. Impacts to on-site habitat for this species would be considered significant since greater than 5% of the on-site habitat for the species would be impacted by Project development (**Significant Direct and Cumulative Impact BI-15)**.

Golden eagle (*Aquila chrysaetos*) is a California Species of Special Concern and is protected by the Federal Bald and Golden Eagle Protection Act. A golden eagle pair is known to live in O'Neal Canyon, several miles to the northeast of the Project site, and one eagle was observed flying over the Project site during a 2005 survey. Because this species generally nests in rugged terrain far from human activity, it is not expected to nest within several miles of the Project site. The proposed Project would destroy golden eagle foraging habitat. Because the Project would impact greater than five acres of foraging habitat for this species, Project implementation would result in a substantial adverse indirect effect to this species due to impacts to foraging habitat. Impacts to foraging habitat on-site are evaluated as significant and would require mitigation (**Significant Direct and Cumulative Impact BI-16**).

As discussed in the analysis for impacts to sensitive plant species, above, implementation of the proposed Project would directly impact three List A species (variegated dudleya, San Diego button-celery, and spreading navarretia), two List B species (San Diego barrel cactus and San Diego marsh-elder), and three List D species (small-flowered morning-glory, chocolate lily, and ashy spike-moss). Impacts to variegated dudleya, San Diego button-celery, spreading navarretia, San Diego barrel cactus, San Diego marsh elder, and chocolate lily are identified as **Significant Direct Impacts BI-1,**

BI-2, BI-3, BI-4, BI-5, and BI-6. In addition, Project implementation would directly impact the observed locations of ten sensitive animal species. Impacts to San Diego fairy shrimp, Riverside fairy shrimp, Quino checkerspot butterfly, grasshopper sparrow, burrowing owl, northern harrier, white-tailed kite, California horned lark, and loggerhead shrike would be considered significant (**Significant Direct Impacts BI-7, BI-8, BI-9, BI-10, BI-11, BI-12, BI-13, BI-14, and BI-15**). Project implementation would also have a significant impact on a pair of golden eagles that nest in nearby O'Neal Canyon, since Project implementation would result in direct impacts to more than five acres of foraging habitat for this species (**Significant Direct and Cumulative Impact BI-16).**

Indirect Impacts

Indirect impacts to sensitive plants and animals could result primarily from adverse "edge effects." During project construction activities, edge effects may include fugitive dust, noise, animal behavioral changes, and errant construction impacts, as well as effects due to decreased water quality (through sedimentation, urban contaminants, or fuel release), colonization of non-native plant species, nuisance animal species, and night-time lighting. However, as documented in SEIR Section 3.1.3, *Hydrology and Water Quality*, impacts associated with water quality and sedimentation are not anticipated to be significant because the Project would be required to implement BMPs as required through compliance with the WPO. In addition, nuisance species (e.g., domestic cats) are not anticipated to be significant because the Project comprises an industrial development, and unlike residential development the Project is not likely to result in the introduction of such nuisance species.

Potential long-term indirect impacts on sensitive plant and animal species could include construction noise, animal behavioral changes, invasion by non-native plant species, night lighting, soil erosion, and hydrological changes (e.g., surface and groundwater level and quality).

These potential construction-related and long-term indirect impacts are regarded as potentially significant and mitigation would be required **(Significant Indirect Impact BI-17)**.

2.2.2.3 Riparian Habitat or Sensitive Natural Community

Guidelines for the Determination of Significance

The Project would have a significant adverse effect on biological resources if the following would occur as a result of a Project-related component:

(2) The proposed Project would have a substantial adverse effect on any riparian habitat or another sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

This significance threshold is studied in this EIR to evaluate the Project's potential to impact natural resources including wetlands, wetland buffers, and sensitive habitat. Significant changes to wetland and sensitive natural habitats could potentially result in the degradation of local food sources, survival rates, and migration patterns of certain sensitive species.

Analysis

As more fully described below, and as summarized in Table 2.2-1, *On- and Off-Site Vegetation Community Impacts,* implementation of the proposed Project would result in impacts to 0.14 acre of

vernal pools, 0.01 acre of freshwater marsh, 0.19 acre of saltgrass grassland, 163.41 acres of non-native grassland, and 0.10 acre of road pools. Impacts to these habitats would be considered significant and are discussed below as **Significant Direct and Cumulative Impacts BI-18 through BI-21**.

Vegetation Community Impacts

Vegetation community impacts resulting from implementation of the Otay Business Park Project are summarized in Table 2.2-1, *On- and Off-Site Vegetation Community Impacts*. Impacts are depicted on Figure 2.2-2, *Vegetation and Sensitive Species Impacts.* As proposed, the Project would impact native and naturalized habitats on and off-site. Impacts to Tier I habitats would include vernal pools (0.14 acre), freshwater marsh (0.01 acre), and saltgrass grassland (0.19 acre). Impacts to Tier III habitats would include impacts to approximately 163.41 acres of non-native grassland. Project impacts to these native or naturalized habitats are considered significant under the BMO and mitigation would be required **(Significant Direct and Cumulative Impacts BI-18, BI-19, BI-20, BI-21)**.

Impacts to Tier IV habitats, disturbed habitat and developed land, would not be considered significant; therefore no mitigation would be required. Road pools are also classified as Tier IV habitats and usually do not require mitigation. However, 0.10 acre of road pools on-and off-site are habitat for and are occupied by endangered fairy shrimp. Impacts to road pools were identified as significant under the discussion of Project impacts to Special Status Species **(Significant Direct and Cumulative Impacts BI-7 and BI-8)**.

Table 2.2-1 ON- AND OFF-SITE VEGETATION COMMUNITY IMPACTS

HABITAT		EXISTING ACREAGE ON-SITE	IMPACTED ACREAGE ON-SITE	IMPACTED ACREAGE OFF-SITE	TOTAL IMPACTED ACREAGE
Tier I	Vernal Pool	0.21	0.14	0.00	0.14
	Freshwater Marsh	0.00	0.00	0.01	0.01
	Saltgrass Grassland	0.19	0.19	0.00	0.19
Tier III	Non-native Grassland	152.82	150.51	12.90	163.41
Tier IV	Road Pool	0.05	0.05	0.05	0.10
	Disturbed Habitat	8.06	7.27	2.92	10.19
	Developed	0.27	0.13	1.14	1.27
	TOTAL	**161.60**	**158.29**	**17.01**	**175.31**

SOURCE: HELIX Environmental, June 23, 2010.

Indirect Impacts

Indirect impacts to sensitive vegetation communities could result primarily from adverse "edge effects." During project construction activities, edge effects may include fugitive dust, noise, animal behavioral changes, and errant construction impacts, as well as effects due to decreased water quality (through sedimentation, urban contaminants, or fuel release), colonization of non-native plant species, nuisance animal species, and night-time lighting. However, as a standard condition of

Project approval, standard construction BMPs and construction-related minimization measures to address water quality and lighting effects would be implemented and would reduce potential indirect construction impacts to a level below significance. Additionally, the Project's On-Site Resource Management Plan (June 23, 2010) and the Project's Grading Plan require the construction of fencing along the western edge of the on-site drainage channel where it abuts the proposed development, which would preclude impacts associated with the intrusion into on-site open spaces by domestic animals and/or future workers at the site.

Potential long-term indirect impacts on vegetation communities could include invasion by non-native plant species, fugitive dust, noise, and errant construction impacts resulting from construction equipment impacting areas outside the planned areas of impact. These potential long-term indirect impacts are regarded as potentially significant and mitigation would be required **(Significant Indirect Impact BI-17)**.

2.2.2.4 Federal Wetlands

Guidelines for the Determination of Significance

The Project would have a significant adverse effect on biological resources if the following would occur as a result of a Project-related component:

(3) The Project would have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption or other means.

This threshold evaluates the Project's potential to alter wetland habitat during development of the site. Modifications to wetland habitat would result in adverse effects to the environment, including adverse effects on sensitive species.

Analysis

Proposed on-and off-site grading would cause direct impacts to jurisdictional areas within the biological study area boundaries. Table 2.2-2, *Impacts to Jurisdictional Areas*, provides a summary of Project impacts to jurisdictional areas. Impacts to Corps jurisdictional areas include 0.19 acre of non-wetland Waters of the U.S. (not including the pond), 0.14 acre of vernal pools, and 0.10 acre of road pools occupied by endangered fairy shrimp (including 0.05 acre of off-site impacts). Impacts to CDFG jurisdictional areas would consist of impacts to 0.19 acre of streambed and 0.01 acre of ephemeral pond (on-site), with no impacts occurring off-site. No County RPO wetlands occur on-site or in the off-site road improvement areas; therefore, the Project would not impact any RPO wetlands. Figure 2.2-3 and Figure 2.2-4, *Impacts to Jurisdictional Areas*, depict the location of Corps and CDFG jurisdictional areas in relation to the Project's proposed disturbance areas. All impacts to Corps and CDFG jurisdictional areas are considered significant and mitigation would be required **(Significant Direct and Cumulative Impact BI-22)**.

2.2.2.5 Wildlife Movement Corridors and Nursery Sites

Guidelines for the Determination of Significance

The Project would have a significant adverse effect on biological resources if the following would occur as a result of a Project-related component:

(4) The Project would interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or would impede the use of native wildlife nursery sites.

Table 2.2-2 IMPACTS TO JURISDICTIONAL AREAS

JURISDICTIONAL AREA	CORPS*		CDFG		COUNTY RPO	
	On-Site	Impacts	On-Site	Impacts	On-Site	Impacts
Wetlands						
Vernal pools	0.21	0.14	0.00	0.00	0.00	0.00
Road pools	0.05	0.10	0.00	0.00	0.00	0.00
Non Wetlands						
Waters of the U.S./ Streambed	0.19	0.19	0.19	0.19	0.00	0.00
Ephemeral Pond	0.01	0.00	0.01	0.01	0.00	0.00
Total	**0.46**	**0.43**	**0.20**	**0.20**	**0.00**	**0.00**

*Additionally, four road pools totaling 0.05 acre also were mapped off-site and would be impacted by the proposed Project.
SOURCE: HELIX Environmental, June 23, 2010

Significance threshold 5 was selected to address potential Project impacts to wildlife movement paths which have a critical role in species survival, allowing foraging, juvenile dispersal, genetic flow, migration and colonization. Without these ecological processes, the probability of species extirpation and eventually extinction is significantly greater.

Analysis

Although the Project site does support a high number of sensitive species, it occurs in an area that does not serve as a regionally important wildlife corridor. Under existing conditions, the Project site and immediate vicinity are subject to frequent patrolling by the Border Patrol, as well as off-road vehicle use. There is no connection for wildlife movement into Mexico, as (1) the border fence greatly inhibits wildlife movement, and (2) the City of Tijuana is entirely developed in the areas south of the project site. The Project site does not support any vegetated riparian corridors that might be used for wildlife movement, nor does it connect to any such corridors off site. Although the site itself supports habitat that could be used by a wide variety of species, including coyote, bobcat, skunks, raccoons, and jackrabbits, it is not considered a wildlife corridor since the site does not concentrate animal movement and direct it toward any particular resource.

Furthermore, the Project site is located within the South County Segment of the MSCP. The MSCP has been designed to ensure the long-term preservation of sensitive vegetation communities, as well as sensitive plant and animal species. According to the Final MSCP Annual Report issued by the County in June 2009, previous conservation efforts have resulted in the assemblage of a large swath of conserved lands located approximately two miles easterly of the Project site. These preserve areas facilitate wildlife movement from both the north and the south and provide a direct connection to the Otay River Valley and other regionally significance wildlife movement corridors. Furthermore, and as depicted on Figure 2-2 of the Final MSCP, the Project site is not located within an identified Biological Core Area and is not located near any Biological Linkages, although such areas are identified to the east and north of the Project area.

Finally, the Project site is not included within the Major Amendment Areas of the MSCP, which typically include core habitat areas essential to many MSCP covered species. Rather, the Project site

is located within a Minor Amendment Area and Minor Amendment Area Subject to Special Considerations. Minor Amendment Areas typically support valuable biological resources that could be partially or completely eliminated (with appropriate mitigation) without significantly affecting the overall goals of the County's Subarea Plan, while the Project site's designation as a Minor Amendment Area Subject to Special Considerations is due to the presence of vernal pools on-site, which are not important features with respect to wildlife movement. As such, the Project site does not contain biological resources that are critical for sensitive species within the Plan Area, and therefore does not comprise a substantial wildlife movement corridor. Therefore, Project implementation would not have a significant impact on wildlife movement corridors.

2.2.2.6 Local Policies, Ordinances, Adopted Plans

Guidelines for the Determination of Significance

The Project would have a significant adverse biological effect if implementation would:

(5) *Conflict with one or more local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, and/or conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.*

Threshold 1 evaluates the Project's consistency with local conservation plans. Conservation plans establish goals, objectives and policies for the preservation of sensitive habitat and sensitive species. Inconsistency with applicable conservation plans could hinder the plans' ability to protect sensitive biological resources.

Analysis

The Project site lies on unincorporated land under the jurisdiction of the County of San Diego and is regulated by the MSCP, the BMO, and the RPO. The County of San Diego maintains sensitive plant lists (Lists A through D) and sensitive animal lists (Groups 1 and 2), and the MSCP was adopted to provide take coverage for a subset of those species. The MSCP, along with the implementing Biological Mitigation Ordinance (BMO), regulates impacts to sensitive biological resources covered by the MSCP. The BMO also identifies and categorizes sensitive species and sensitive habitats (Biological Resource Core Areas, or BRCAs), and impacts to any of these species or habitats (BRCAs) may be considered significant and require mitigation. In the MSCP, habitats are classified in different tier levels based on scarcity or sensitivity. Impacts to habitat in Tiers I, II and III are considered significant and require mitigation under the BMO. The County also regulates impacts to biological resources, wetlands, sensitive habitats and wetland buffers through its Resource Protection Ordinance (RPO). An evaluation of the Project's consistency with these policies and ordinances is provided below.

Multiple Species Conservation Plan

The Project site lies within the South County Segment of the County's MSCP Subarea Plan. The majority of the site is designated as a Minor Amendment Area, but the southern portion is designated as a Minor Amendment Area Subject to Special Considerations. Because these Amendment Areas are not currently covered under the MSCP, the County's Take Authorizations do not apply to them until the Amendment process has been completed.

Minor Amendment areas support valuable biological resources that could be partially or completely eliminated (with appropriate mitigation) without significantly affecting the overall goals of the County's Subarea Plan (County 1997). The bulk of the eastern, western, and northern portions of the site are designated Minor Amendment Areas. In addition to the County, the minor amendment process requires approval of the USFWS Field Office Supervisor and the CDFG Natural Communities Conservation Planning Program (NCCP) Program Manager. Full reviews under NEPA are typically not required.

Minor Amendment Areas Subject to Special Consideration are limited to the EOMSP Area, and their designation corresponds to the EOMSP's "G" designator. The central and southern portions of the property are considered Minor Amendment Areas Subject to Special Considerations. These areas are typically transitional areas located between Major and Minor Amendment Areas, but on site, these lands were designated because of their potential to support vernal pools. Areas with the "G" designator are subject to the Sensitive Resource Area Regulations of the Zoning Ordinance. Prior to project approval, the MSCP requires the applicant to prepare a Resource Management Plan addressing impacts to habitat and endangered species on site. An On- and Off-Site Resource Management Plan identifying the Project's long-term mitigation obligations for on- and off-site resources has been prepared and approved by the County, and is included as Appendices C1 and C2 to this SEIR, respectively.

Most federally listed endangered species found locally would be covered under the MSCP upon completion of the Amendment process. Under the Amendment process if a project satisfies the preservation requirements of the Federal and California ESAs and the NCCP, then the MSCP can be amended to include the project site, and take authorization for covered species can be issued. Plant species that will be addressed by the Project's proposed Amendment include the Otay tarplant, variegated dudleya, and San Diego barrel cactus. Animal species that will be addressed by the Amendment include the coastal California gnatcatcher, burrowing owl, coast horned lizard, northern harrier, golden eagle, and southern California rufous-crowned sparrow.

The Quino checkerspot butterfly, which is not a covered species under the MSCP, has been observed on the property in the past and the Project site contains marginally suitable to high quality habitat for this species. The County of San Diego is currently in the process of amending the MSCP to include the Quino checkerspot butterfly as a covered species for the entire County MSCP Subarea, including Major and Minor Amendment Areas within the Project area. If the MSCP is amended prior to Project implementation, then no additional USFWS authorization would be required for take of this species. In the absence of an amendment to the MSCP, however, the Project would require an individual Section 10(a)(1)(b) Permit or Section 7 consultation under the Federal ESA in order to proceed with the development. Therefore, Project impacts to the Quino checkerspot butterfly either would be addressed as part of the County's Amendment process, or the Project would be required pursuant to the Federal ESA to obtain a Section 10(a)(1)(b) permit or engage in a Section 7 consultation. In either case, the Project would not conflict with any MSCP requirements for the Quino checkerspot butterfly, and a significant impact would not occur.

Concurrence from the Wildlife Agencies over the proposed Amendment would be required prior to Project approval. As part of the Project approval and following concurrence from the Wildlife Agencies, the proposed Project would be conditioned to complete the Amendment process pursuant to the MSCP prior to the issuance of future implementing permits (e.g., grading permits, etc.). As more fully described below under the discussion of the Project's consistency with the BMO, which is

the County's ordinance for implementation of the MSCP requirements, the Project would implement mitigation measures that would ensure that the goals of the South County Segment of the MSCP Subarea Plan are accommodated by the Project. With incorporation of the mitigation measures specified in SEIR Section 2.2.5.2, and because the Project would comply with the BMO (as described below), Project implementation would not result in a significant impact due to a conflict with the County's MSCP.

Biological Mitigation Ordinance

In addition to the County's MSCP, the County has adopted the BMO, which is the mechanism by which the County implements the MSCP at the project level within the unincorporated area to attain the goals set forth in the County's MSCP Subarea Plan area. The BMO contains design criteria and mitigation standards which, when applied to projects requiring discretionary permits, protect habitats and species and ensure that a project does not preclude the viability of the MSCP Preserve System. In this way, the BMO promotes the preservation of lands that contribute to contiguous habitat core areas or linkages. The BMO addresses avoidance of impacts to BRCAs and plant and animal species, and identifies mitigation requirements for discretionary projects.

The BMO establishes a list of criteria for determining whether lands comprise a BRCA. Although dominated by non-native grassland, and characterized by a preponderance of non-native or invasive species, the Project site supports a large number of sensitive species, including several that are considered threatened or endangered by the USFWS or CDFG. As a result, and based on the criteria set forth in the BMO, the County considers the project site to comprise a BRCA. The BMO directs that impacts to lands identified as BRCAs should be minimized to the greatest practical extent. Additionally, the BMO requires a minimum of 80 percent avoidance of on-site populations of County List A and B plant species.

The Project proposes to develop the entire 161.6-acre site, and would therefore result in direct impacts to a BRCA as well as all on-site populations of County List A and B plant species. Specifically, the Project would impact all on-site individuals of 8 sensitive plant species, including 3 on the County's Group A list (variegated dudleya, San Diego button-celery, and spreading navarretia), 2 on the Group B list (San Diego marsh-elder and San Diego barrel cactus), and 3 on the Group D list (small-flowered morning-glory, chocolate lily, and ashy spike-moss). Such impacts would normally be considered to be a direct conflict with the BMO.

However, pursuant to Section 86.501 of the BMO, it is the stated policy of the ordinance to, "…promote the preservation of biological resources by directing preservation toward land which can be combined into contiguous areas of habitat or linkages," and "…to give greater value to the preservation of large contiguous Biological Resource Core Area or to linkages when formulating avoidance and mitigation requirements." The EOMSP designates the proposed Project site and lands to the west, north, and east for Mixed Industrial development. To the south of the proposed Project site is an existing east-west oriented access road utilized by the Border Patrol in patrolling the border with Mexico. In addition, the U.S. General Services Administration is currently working with Caltrans in planning for a cross-border facility to be located immediately east of the proposed Project site, and the access road abutting the Project site's southern boundary is under consideration as a potential linkage between the existing Otay Mesa Border Crossing Facility to the west and this proposed new border crossing facility. A freeway facility (SR-11) also is proposed to the north and east of the proposed Project site. Accordingly, conservation of on-site resources would not achieve

the objective of the BMO to promote the assemblage of large, contiguous blocks of habitat, as on-site preservation of sensitive resources would necessary entail the creation of isolated blocks of habitat that would be afforded no linkage to existing or proposed large blocks of habitat. The conservation of such isolated blocks of habitat would not measurably contribute to the long-term preservation of sensitive plant and animal species within the region.

Section 86.509(b) of the BMO provides for exceptions to the BMO requirements as follows:

> *"In certain cases, during CEQA review and/or design of a project, site specific physical conditions, including but not limited to geology, slope, or location of infrastructure, may be identified which make it infeasible for the project to meet all the goals and criteria or other requirements in the Subarea Plan, but the project could be constructed without compromising the conservation of species and habitats pursuant to the Subarea Plan. The exception shall be the minimum necessary to afford relief and accommodate development. In such instances, the County may grant an exception to this Chapter in conjunction with granting an exception to the Subarea Plan. An exception to the Subarea Plan requires the concurrence of the Wildlife Agencies."*

As depicted on SEIR Figure 2.2-2, sensitive plant species on the proposed Project site occur in localized areas throughout the property, and there is no feasible way to avoid impacts to 80% of the on-site populations while still allowing for the implementation of an economically-viable mixed industrial project on the site. Even if avoidance of 80% of these individuals were possible, the resulting conservation areas would render these sensitive plants isolated from conspecifics in the surrounding region.

In addition, and as identified more fully in SEIR Section 2.2.5.2, variegated dudleya, San Diego button-celery, spreading navarretia, and San Diego barrel cactus occurring on-site would be salvaged and translocated to a proposed mitigation site on Lonestar Ranch, where existing populations of similar sensitive plant species already occurs. Additionally, San Diego marsh-elder would be translocated to the realigned drainage on-site, existing populations of chocolate lily at the Lonestar Parcels would be preserved, and small-flowered morning-glory would be planted at the Lonestar Parcels. The proposed translocation efforts and preservation of the Lonestar Parcels would assist the County in assembling a large block of habitat that would contribute to the long-term conservation of these species, and would therefore achieve the objectives of the Subarea Plan to a greater degree than if conservation were to occur on-site.

For these reasons, the County of San Diego, in consultation with the Wildlife Agencies, has decided to grant the proposed Project an exception to the BMO's requirements for on-site avoidance/conservation. With implementation of the mitigation measures set forth in SEIR Section 2.2.5.2, Project implementation would not compromise the conservation of species and habitats pursuant to the Subarea Plan. Although the exception would apply to the entire 161.6-acre Project site, an exception to the on-site conservation requirements was determined to be the minimum necessary to afford relief and accommodate an economically-viable industrial development on the site. Therefore, with the implementation of the required mitigation, and with the granting of an exception to the BMO's on-site conservation requirements pursuant to Section 86.509(b) of the BMO, Project impacts to on-site sensitive plant species would not result in a conflict with the BMO.

The project also would impact habitat for five narrow endemic animal species (San Diego fairy shrimp, Riverside fairy shrimp, Quino checkerspot butterfly, golden eagle, and burrowing owl), in addition to habitat for other sensitive animal species observed on site (western spadefoot, two-striped garter snake, grasshopper sparrow, northern harrier, white-tailed kite, California horned lark, and loggerhead shrike). These impacts would be considered significant but mitigable. In conformance with the BMO, the project would mitigate for impacts to narrow endemic species by a combination of habitat preservation, habitat restoration, and restrictions on clearing during the owl breeding season; and would mitigate for impacts to other sensitive animal species through habitat-based mitigation. Provided the proposed mitigation measures are implemented, as provided in SEIR Section 2.2.5.2, a conflict with the BMO requirements for narrow endemic animal species would not occur.

The Project is proposing to mitigate impacts primarily off-site both within Otay Mesa and outside of Otay Mesa, with a small portion of mitigation occurring on-site. Off-site mitigation within the mesa would occur at the Lonestar Parcels, located easterly and adjacent to SR-125 and northerly of Lone Star Road (approximately three miles northwest of the Project site). The Lonestar Parcels support or have the potential to support burrowing owls, non-native grassland, vernal pools, road pools with fairy shrimp, and Diegan coastal sage scrub, as well as a number of County List A plant species and Group 1 animal species on approximately 68.72 acres. The Lonestar parcels are located in the City of San Diego, outside but adjacent to the MSCP Subarea Plan. The remaining mitigation lands would comprise approximately 2.98 acres within the Project site and approximately 81.70 acres to be acquired off Otay Mesa at a location to be approved by the County and CDFG, likely within the community of Ramona. According to the BMO, mitigation must occur within the County's MSCP Subarea Plan. If the off-mesa mitigation would occur outside the Subarea Plan, an amendment to the Subarea Plan may be required. Since the Project already would be required to complete a Minor Amendment to include the Project site in the MSCP, the Lonestar parcels and the off-mesa mitigation site could be included in the amendment process so as to be included within the Subarea Plan. This process would follow the procedure laid out in Section 4.7 of the Subarea Plan and must receive the concurrence of the Wildlife Agencies. The selected off-mesa mitigation site(s) would have the following characteristics:

- Support grassland to meet the Project's requirements;
- Comprise occupied burrowing owl habitat or lands appropriate for restoration, management and enhancement of burrowing owl nesting and foraging requirements;
- Be free of encumbrances that would preclude a conservation easement;
- Contribute to the long-term persistence of sensitive biological resources in the region; and
- Provide suitable habitat for multiple resources, including sensitive plant species, which could be transplanted or restored, if necessary.

With approval of a Minor Amendment to the MSCP to include the Lonestar Parcels and an off-mesa mitigation site that is acceptable to the County and CDFG, Project implementation would not result in a conflict with the BMO. Because the Project cannot be implemented prior to the completion of the Minor Amendment to include an off-mesa mitigation site, a significant impact due to a conflict with the BMO would not occur.

Resource Protection Ordinance

The County regulates impacts to biological resources via its Resource Protection Ordinance (RPO). In addition to wetlands, it addresses sensitive habitat lands and wetland buffers. Sensitive Habitat Lands are defined in the RPO as:

> *lands that support unique vegetation communities or the habitats of rare or endangered species or sub-species of animals or plants as defined by Section 15380 of the State California Environmental Quality Act. "Sensitive Habitat Lands" includes the area necessary to support a viable population of any of the above species in perpetuity or which is critical to the proper functioning of a balanced natural ecosystem or which serves as a functioning wildlife corridor.*

Wetland buffers are defined under the RPO as:

> *lands that provide a buffer area of an appropriate size to protect the environmental and functional habitat values of the wetland, or which are integrally important in supporting the full range of the wetland and adjacent upland community.*

No County RPO wetlands occur on-site. The vernal pools on-site are predominately unvegetated, only hold water for a brief period of time each year, and have a soil bottom. The on-site drainage and off-site freshwater marsh also do not meet County RPO wetland criteria for the following reasons: (1) the on-site drainage is an ephemeral, soil-lined channel that does not support "a predominance of hydrophytes" or have a substratum that is "predominately undrained hydric soil", and (2) the small (0.01 acre) freshwater marsh area occurs as a small depression at the terminus of a man-made swale created to convey run-off from a nearby culvert and brow ditch constructed for an adjacent development. This area meets the criteria listed under RPO Section 86.602(q)(2) for areas that are not considered RPO wetlands because it (a) has wetland attributes solely due to man-made structures, (b) has negligible biological function or value as wetlands, (c) is small and geographically isolated from other wetland systems, (d) is not a vernal pool, and (e) it does not have substantial or locally important populations of wetland-dependent species. Based on this information, the on-site vernal pools, off-site freshwater marsh, and on-site drainages do not meet the County RPO wetland criteria. Accordingly, implementation of the proposed Project would not conflict with the RPO policies protecting wetlands or wetland buffers.

With respect to sensitive habitat lands, the RPO at Section 86.604(f) allows for impacts to sensitive habitat lands resulting from trenching, grading, clearing or grubbing, "…when all feasible measures necessary to protect and preserve the sensitive habitat lands are required as a condition of permit approval and where mitigation provides an equal or greater benefit to the affected species." As more fully discussed in SEIR Section 2.2.2.3, sensitive habitats that would be impacted by Project implementation both on- and off-site include 0.24 acres of impacts to vernal/road pools, 0.01 acre of freshwater marsh habitat, 0.19 acre of saltgrass grassland, and 163.41 acres of non-native grassland. Mitigation for these impacts has been designed in coordination with, and approved by, County of San Diego, USFWS, and CDFG staff, and is provided in SEIR Section 2.2.5.2. The mitigation for Project impacts to these sensitive vegetation communities are summarized in Table 2.2-5, *Mitigation for Impacts to Vegetation Communities.* As shown, the mitigation requires a combination of preservation and/or restoration of habitat that is of equal or better quality than the habitat being impacted by the Project. Project impacts to vernal pools and road pools would be mitigated at a 3:1 ratio with the preservation of a site that contains 0.66 acre of existing vernal pool habitat at the Lonestar Parcels that is of higher quality than the vernal pool habitat occurring on the proposed

Project site, combined with an additional 0.41 acre of vernal pool habitat restoration at this site. Impacts to saltgrass grassland would be mitigated at a 2:1 ratio through habitat restoration on the Lonestar Parcels. Impacts to non-native grassland would be mitigated at a 1:1 ratio through a combination of preservation and restoration of habitat. Because all feasible mitigation measures have been identified and will be enforced via conditions of Project approval, and because these mitigation measures would provide an equal or greater benefit to the affected species that rely on these habitats, the Project's mitigation requirements would ensure that the Project does not conflict with the RPO policies addressing sensitive habitat lands. As such, significant impacts due to a conflict with the County's RPO would not occur.

2.2.3 Cumulative Impact Analysis

2.2.3.1 Cumulative Impacts Identified by the EOMSP Final EIR

The EOMSP Final EIR (1994) indicated that the loss of vegetation and habitat within the EOMSP area represents a significant cumulative impact due to the potential loss of open space within the EOMSP and surrounding projects. The analysis concludes that participation in a large-scale habitat mapping program, such as the MSCP, NCCP, or development of a resource management plan would assist in alleviating such impacts, although no mitigation measures for these cumulative effects were provided.

2.2.3.2 Project-Specific Cumulative Impact Analysis

As mentioned previously in this section, the proposed Project site is located within the South County Segment of the County's MSCP Subarea Plan and is located to the east of the City of San Diego Subarea Plan. The MSCP is a comprehensive habitat conservation planning program that addresses multiple species habitat needs and the preservation of native vegetation communities for an approximate 900-square-mile area in southwestern San Diego County. Thus, the MSCP addresses the conservation of important biological resources on a regional scale that encompasses a large number of jurisdictions. Local jurisdictions and special districts implement the MSCP Plan through subarea plans, such as the County's MSCP Subarea Plan and the City's Subarea Plan, and these subarea plans contribute collectively to the conservation of covered vegetation communities and species in the MSCP area. Therefore, for purposes of evaluating the Project's cumulative impacts to biological resources addressed by the MSCP, the cumulative study area is considered to be the Otay Mesa portion of the South County Segment of the County's MSCP Subarea Plan (i.e., southerly of the Otay River) as well as the portion of the City's Subarea Plan located easterly of I-805 and south of the Otay River (refer to Figure 2.2-5, *Cumulative Study Area – Biological Resources*). Areas located outside of this study area either exhibit distinctive characteristics for biological resources, such as differing climatological conditions westerly of I-805, or are separated by natural barriers such as the Otay River Valley to the north and the San Ysidro Mountains to the east, and are therefore excluded from the cumulative study area.

<u>Local Policies, Ordinances, Adopted Plans</u>

As discussed under Section 2.2.2.6, the proposed Project would not conflict with the County's MSCP, BMO, or RPO, which are the applicable local policies and ordinances adopted to protect biological resources within the region. Other projects within the region would similarly be required to comply with the provisions of the MSCP, BMO, and/or RPO. Additionally, none of the Project's within the cumulative study area for biological resources would result in a conflict with any local policies, ordinances, or adopted plans (refer to SEIR Table 1-7). As such, implementation of the

proposed Project would not result in any cumulatively significant impacts due to a conflict with local policies, ordinances, or adopted plans.

Special Status Species

Project consistency with the objectives of the South County Segment of the Subarea Plan would preclude cumulatively significant impacts to any special status species covered by the Plan, although Project consistency with the Subarea Plan would require mitigation. Other developments within the region that propose impacts to biological resources covered by the MSCP similarly would be required to implement mitigation measures in accordance with the County's BMO and MSCP or City of San Diego MSCP to ensure that direct and indirect impacts are reduced to a level below significance. In this way, projects that are consistent with the conservation and mitigation requirements of the MSCP would not result in any cumulatively significant impacts with respect to special status species covered under the MSCP. However, the Otay Mesa community is frequented by Border Patrol vehicles and unauthorized off-road vehicles that likely have resulted in undocumented impacts to special status species. Therefore, prior to mitigation, all Project impacts to special status species are cumulatively considerable.

As identified previously in this section, implementation of the proposed Project would result in direct impacts to the following species, which also would be cumulatively considerable prior to mitigation: variegated dudleya, San Diego button-celery, San Diego barrel cactus, San Diego fairy shrimp, Riverside fairy shrimp, grasshopper sparrow, burrowing owl, northern harrier, white-tailed kite, California horned lark, loggerhead shrike, and golden eagle. All 20 projects in the cumulative study area would impact these special status species, either through direct impacts or (as in most cases) through removal of habitat for the species. As shown in Table 1-7, all 20 of the projects within the cumulative study area would mitigate impacts to special status species to less than significant levels. Nonetheless, when considering undocumented impacts to special status species resulting from Border Patrol vehicles and unauthorized off-road vehicle use, and because mitigation would be required to ensure Project consistency with the MSCP, implementation of the proposed Project would result in cumulatively significant impacts to variegated dudleya (**Significant Direct and Cumulative Impact BI-1**), San Diego button-celery (**Significant Direct and Cumulative Impact BI-2**), spreading navarretia (**Significant Direct and Cumulative Impact BI-3**), San Diego barrel cactus (**Significant Direct and Cumulative Impact BI-4**), San Diego fairy shrimp (**Significant Direct and Cumulative Impact BI-7**), Riverside fairy shrimp (**Significant Direct and Cumulative Impact BI-8**), grasshopper sparrow (**Significant Direct and Cumulative Impact BI-10**), burrowing owl (**Significant Direct and Cumulative Impact BI-11**), northern harrier (**Significant Direct and Cumulative Impact BI-12**), white-tailed kite (**Significant Direct and Cumulative Impact BI-13**), California horned lark (**Significant Direct and Cumulative Impact BI-14**), loggerhead shrike (**Significant Direct and Cumulative Impact BI-15**), and golden eagle (**Significant Direct and Cumulative Impact BI-16**).

The remaining sensitive plant and animal species occurring within the Project's impact area are not covered by the MSCP. However, the County of San Diego is currently processing a Major Amendment to the MSCP to obtain take coverage for the Quino checkerspot butterfly. If the Major Amendment is approved, then cumulatively significant impacts to this species would be reduced to less than significant levels (following mitigation) as it would be adequately conserved within the MSCP preserve areas. However, if the MSCP amendment is not approved, then individual projects within the plan area would require an individual Section 10(a)(1)(B) Permit or Section 7 consultation

under the Federal ESA in order to proceed with development. Compliance with the Federal ESA would require concurrence from the Wildlife Agencies that the mitigation program identified to address each individual project's impacts is adequate. Although none of the other projects in the cumulative study area identified impacts to the Quino checkerspot butterfly, it is reasonable to conclude that habitat for this species is being impacted by Border Patrol activity and/or unauthorized off-road vehicle use, both of which are prevalent in the cumulative study area. Therefore, in the absence of mitigation and either a Major Amendment to the MSCP or approval of a Section 10(a)(1)(B) Permit or Section 7 consultation under the Federal ESA, Project impacts to the Quino checkerspot butterfly would be cumulatively significant (**Significant Direct and Cumulative Impact BI-9**)

Implementation of the proposed Project also would result in impacts to three plant species (small-flowered morning-glory, chocolate lily, and San Diego marsh-elder) and four animal species (western spadefoot toad, white-tailed kite, California horned lark, and loggerhead shrike) that are not covered under the MSCP. Small-flowered morning-glory, chocolate lily, and ashy spike-moss are all Group D species on the County of San Diego Sensitive Plant List, indicating that these species are of limited distribution and are uncommon, but are not presently rare or endangered. Because these are Group D species, impacts would be allowable under the MSCP upon completion of a Minor Amendment process and implementation of appropriate mitigation.

Project impacts to chocolate lily are evaluated as cumulatively significant because this species is being impacted throughout Otay Mesa through direct habitat loss and/or indirect effects associated with on-going Border Patrol activities and unauthorized off-road vehicles (**Significant Direct and Cumulative Impact BI-6**).

Impacts to small-flowered morning glory and ashy spike-moss would not affect the regional long-term survival of the species because the on-site populations represent a small percentage of the local population in the Otay Mesa area, the respective on-site individuals likely contribute little to the local population, and the respective on-site populations provide little preservation value. Furthermore, small-flowered morning glory is included in the seed mix for restoration efforts at the Lonestar Parcels (refer to EIR Section 2.2.5.2). Therefore, Project impacts to small-flowered morning glory and ashy spike-moss would not be cumulatively significant.

San Diego marsh elder is a County Group B species, and Project impacts to this species could be considered detrimental to the regional long-term survival of the species. However, none of the projects in the cumulative study area would impact this species. Additionally, due to the low number of individuals impacted on-site, Project impacts would not affect the regional long-term survival of this species. Moreover, as required mitigation for direct impacts (refer to Mitigation Measure M-BI-5), this species would be translocated on-site to the realigned drainage. Therefore, Project impacts to this species would not be cumulatively significant.

Although the western spadefoot toad occurs in a relatively large number of locations throughout Otay Mesa, including areas containing open sage scrub habitat that is more favorable to the species than the grasslands occurring on-site, the regional long-term survival of this species could be adversely affected as development occurs throughout Otay Mesa and impacts to the habitat for this species occur. In addition, habitat for this species is likely subject to impacts from on-going Border Patrol operations as well as unauthorized off-road vehicle use, both of which are common within the study

area. As such, Project impacts to the western spadefoot toad are evaluated as cumulatively significant (**Significant Cumulative Impact BI-23**).

Implementation of the proposed Project would eliminate approximately 161.6 acres of suitable foraging habitat for the white-tailed kite, California horned lark, and loggerhead shrike. The reduction of foraging habitat for these species, when combined with the effects of other Projects in the region that would similarly impact grassland habitat (18 of which were determined to significantly impact habitat for these species), as well as the undocumented impacts associated with Border Patrol activity and unauthorized off-road vehicle use, has the potential to reduce the long-term viability of these species, and as such Project impacts to on-site grassland foraging habitat for the white-tailed kite, California horned lark, and loggerhead shrike is evaluated as cumulatively significant (**Significant Cumulative Impacts BI-13, BI-14, and BI-15**). In addition, because the Project would impact greater than 5 acres of foraging habitat for the golden eagle, and because 18 of the cumulative projects within the study area would impact habitat for this species (in addition to undocumented impacts from on-going Border Patrol operations and unauthorized off-road vehicle use), Project implementation also would result in a cumulatively significant impact to the long-term survival of the golden eagle (**Significant Direct and Cumulative Impact BI-16**).

Implementation of the proposed Project would not result in direct impacts to the off-site observed location of a single individual of two-striped garter snake, which was observed in a drainage just off-site to the north of the Project site. Although potentially suitable habitat occurs within the on-site drainage, it is considered of marginal suitability due to ephemeral flows and lack of riparian vegetation. As such, the drainage is not expected to support a population of two-striped garter snake and Project construction would not have a substantial adverse effect on this species. For these reasons, Project implementation would not result in a cumulatively significant impact to this species..

Riparian Habitat or Sensitive Natural Community

None of the projects within the cumulative study area for biological resources would result in impacts to riparian habitat, although 18 of the projects would result in impacts to sensitive natural communities, including native and non-native grassland, sage scrub, and tamarisk scrub. Implementation of the proposed Project would result in impacts to 0.14 acre of vernal pools, 0.01 acre of freshwater marsh, 0.19 acre of saltgrass grassland, 163.41 acres of non-native grassland, and 0.10 acre of road pools. These habitat types all serve as habitat for rare, threatened, or endangered species within the region. With exception of impacts to freshwater marsh, when combined with future developments in the region which are anticipated to result in additional impacts to one or more of these vegetation communities, as well as undocumented impacts from on-going Border Patrol operations and unauthorized off-road vehicle use), the long-term survival of several endangered plants and animals could be threatened. In addition, the East Otay Mesa Specific Plan FEIR classifies any impact to non-native grassland as a significant cumulative impact. As such, Project impacts to vernal pools, saltgrass grassland, and non-native grassland are evaluated as cumulatively significant impacts for which mitigation would be required (**Significant Direct and Cumulative Impacts BI-18, BI-20, BI-21**). Because road pools are classified as Tier IV habitats and are therefore not targeted for conservation under the MSCP, Project impacts to on- and off-site road pools would impact habitat for the endangered Riverside and San Diego fairy shrimp. These impacts were previously identified as Significant Cumulative and Direct Impacts BI-7 and BI-8.

Impacts to 0.01 acre of non-jurisdictional freshwater marsh have a less than considerable contribution to the cumulative impact on this habitat in the region due to the small area involved, its human-induced origin, its negligible biological function as a wetland, and because it does not support substantial or locally important populations of wetland-dependent species. Therefore, cumulative impacts to freshwater marsh would not occur.

Federal Wetlands

Only two projects within the cumulative study area for biological resources would result in impacts to wetlands (project numbers 8 and 37 on Figure 2.2-5). Proposed on-and off-site grading associated with the proposed Project would cause direct impacts to jurisdictional areas within the biological study area boundaries. Impacts to Corps jurisdictional areas include 0.19 acre of non-wetland Waters of the U.S. (not including the pond), 0.01 acre of ephemeral pond (on-site), 0.14 acre of vernal pools, and 0.10 acre of road pools occupied by endangered fairy shrimp (including 0.05 acre of off-site impacts). Impacts to CDFG jurisdictional areas would consist of impacts to 0.19 acre of streambed and 0.01 acre of ephemeral pond (on-site), with no impacts occurring off-site. No County RPO wetlands occur on- or off-site; therefore, the Project would not impact any RPO wetlands. When combined with impacts to Corps and CDFG jurisdictional areas anticipated from other proposed or future developments within the region, including the Otay Crossings project, Project impacts to Corps and CDFG jurisdictional areas would be considered cumulatively significant and mitigation would be required **(Significant Direct and Cumulative Impact BI-22)**.

Wildlife Movement Corridors and Nursery Sites

None of the projects within the cumulative study area for biological resources identified any impacts to wildlife movement corridors or nursery sites. As discussed under Section 2.2.2.5, the proposed Project site does not support any vegetated riparian corridors that might be used for wildlife movement, nor does it connect to any such corridors off-site. Although the site itself supports habitat that could be used by a wide variety of species, including coyote, bobcat, skunks, raccoons, and jackrabbits, it is not considered a wildlife corridor since the site does not concentrate animal movement and direct it toward any particular resource. In addition, the County's MSCP has resulted in the assemblage of a very large swath of conserved lands located approximately two miles easterly of the site, and this assemblage facilitates regional wildlife movement between the border, areas to the north, and the Otay River Valley. For these reasons, implementation of the proposed Project would not result in any cumulatively significant impacts to wildlife movement corridors.

2.2.4 Significance of Impacts Prior to Mitigation

Significant Direct and Cumulative Impact BI-1: Implementation of the Project would result in direct impacts to 3,465 variegated dudleya plants, would not achieve the 80% avoidance required by the MSCP, and would cumulatively impact the regional long-term survivability of the species.

Significant Direct and Cumulative Impact BI-2: The Project would directly impact three individual San Diego button-celery plants, would not achieve the 80% avoidance required by the MSCP, and would cumulatively impact the regional long-term survivability of the species.

Significant Direct and Cumulative Impact BI-3: The Project would directly impact three individual spreading navarretia plants, would not achieve the 80% avoidance required by the MSCP, and would cumulatively impact the regional long-term survivability of the species.

Significant Direct and Cumulative Impact BI-4: The Project would directly result in impacts to all thirty-one San Diego barrel cactus individuals occurring on-site, would not achieve the 80% avoidance required by the MSCP, and would cumulatively impact the regional long-term survivability of the species.

Significant Direct Impact BI-5: The Project would directly impact eleven individual San Diego marsh-elder plants and such impacts may impact the regional long-term survivability of the species. However, because no other projects in the cumulative study area would impact this species, a cumulatively significant impact would not occur.

Significant Direct and Cumulative Impact BI-6: The Project would result in direct impacts to four individual chocolate lily plants. As similar impacts to this species are occurring throughout the Otay Mesa region, impacts to on-site individuals also are evaluated as cumulatively significant.

Significant Direct and Cumulative Impact BI-7: Implementation of the Project would result in impacts to one on-site vernal pool, nine on-site road pools, and three off-site road pools containing San Diego fairy shrimp. Additionally, the Project would impact approximately 114.4 acres of habitat that is considered Critical Habitat for this species. As similar impacts to this species are occurring throughout the Otay Mesa region, impacts to San Diego fairy shrimp also are evaluated as cumulatively significant.

Significant Direct and Cumulative Impact BI-8: The Project would impact one on-site vernal pool, two on-site road pools, and one off-site road pool supporting Riverside fairy shrimp. As similar impacts to this species are occurring throughout the Otay Mesa region, impacts to Riverside fairy shrimp also are evaluated as cumulatively significant.

Significant Direct and Cumulative Impact BI-9: Project implementation would result in a direct impact to habitat, foraging plants, and larval host plants for the Quino checkerspot butterfly. As similar impacts to this species are occurring throughout the Otay Mesa region, impacts to Quino checkerspot butterfly also are evaluated as cumulatively significant.

Significant Direct and Cumulative Impact BI-10: Project implementation would result in a direct impact to the observed location of one grasshopper sparrow, and would impact the entire 161.6-acre Project site that is considered suitable habitat for the species. Project impacts would exceed the 5% impact allowed by the MSCP for List 1 species. As similar impacts to this species are occurring throughout the Otay Mesa region, impacts to grasshopper sparrow also are evaluated as cumulatively significant.

Significant Direct and Cumulative Impact BI-11: The proposed Project would impact seven burrowing owl burrows along with approximately 163.41 acres of occupied habitat for this species. As similar impacts to this species are occurring throughout the Otay Mesa region, impacts to burrowing owl also are evaluated as cumulatively significant.

Significant Direct and Cumulative Impact BI-12: Project implementation would result in a direct impact to the entire 161.6-acre Project site that is considered suitable habitat for the northern harrier. Project impacts would exceed the 5% impact allowed by the MSCP for List 1 species. As similar impacts to this species are occurring throughout the Otay Mesa region, impacts to grasshopper sparrow also are evaluated as cumulatively significant.

Significant Direct and Cumulative Impact BI-13: Project implementation would result in a direct impact to the entire 161.6-acre Project site that is considered suitable habitat for the white-tailed kite. Project impacts would exceed the 5% impact allowed by the MSCP for List 1 species. As similar impacts to this species are occurring throughout the Otay Mesa region, impacts to white-tailed kite also are evaluated as cumulatively significant.

Significant Direct and Cumulative Impact BI-14: Project implementation would result in a direct impact to the entire 161.6-acre Project site that is considered suitable habitat for the California horned lark. Project impacts would exceed the 5% impact allowed by the MSCP for List 1 species. As similar impacts to this species are occurring throughout the Otay Mesa region, impacts to California horned lark also are evaluated as cumulatively significant.

Significant Direct and Cumulative Impact BI-15: Project implementation would result in a direct impact to the entire 161.6-acre Project site that is considered suitable habitat for the loggerhead shrike. Project impacts would exceed the 5% impact allowed by the MSCP for List 1 species. As similar impacts to this species are occurring throughout the Otay Mesa region, impacts to loggerhead shrike also are evaluated as cumulatively significant.

Significant Direct and Cumulative Impact BI-16: Project implementation would impact more than five acres of habitat for the golden eagle. As similar impacts are occurring throughout the Otay Mesa area, these impacts also are evaluated as cumulatively significant.

Significant Indirect Impact BI-17: During construction and long-term operation of the proposed Project, there is a potential for indirect impacts to off-site vegetation communities due to fugitive dust, noise, animal behavioral changes, and errant construction impacts, as well as effects due to colonization of non-native plant species and night-time lighting.

Significant Direct and Cumulative Impact BI-18: Implementation of the Project would impact 0.14 acre of vernal pool habitat on- and off-site. As similar impacts to vernal pool habitat are occurring in Otay Mesa, these impacts also are evaluated as cumulatively significant.

Significant Direct Impact BI-19: The proposed Project would impact 0.01 acre of freshwater marsh off-site. However, impacts to freshwater marsh are evaluated as less than cumulatively considerable due to the small area involved, its human-induced origin, its negligible biological function as a wetland, and because it does not support substantial or locally important populations of wetland-dependent species.

Significant Direct and Cumulative Impact BI-20: Project implementation would impact 0.19 acre of on-site saltgrass grassland. As similar impacts to saltgrass grassland are occurring in Otay Mesa, these impacts also are evaluated as cumulatively significant.

Significant Direct and Cumulative Impact BI-21: The proposed Project would impact 163.41 acres of non-native grassland on- and off-site. As similar impacts to non-native grassland habitat are occurring in Otay Mesa, these impacts also are evaluated as cumulatively significant.

Significant Direct and Cumulative Impact BI-22: The proposed Project would have a direct impact on CDFG jurisdictional areas, including 0.19 acre of streambed and 0.01 acre of ephemeral pond (on-

site), and would impact Corps jurisdictional areas, including 0.19 acre of non-wetland Waters of the U.S., 0.14 acre of vernal pools, and 0.10 acre of road pools occupied by endangered fairy shrimp.

Significant Cumulative Impact BI-23: Although the Project's direct impacts to the western spadefoot toad are not evaluated as significant, the regional long-term survival of this species could be adversely affected as development occurs throughout Otay Mesa and impacts to the habitat for this species occur; this is evaluated as a cumulatively significant impact of the proposed Project.

2.2.5 Mitigation

2.2.5.1 Mitigation Measures from the EOMSP Final EIR

Mitigation measures were identified by the EOMSP Final EIR (1994) to address impacts to biological resources resulting from long-term development of the EOMSP area. These mitigation measures included, in part, the following:

- *Preserve 100% of occupied vernal pools in the J-22 complex and near the border (including watershed; provide buffers). Preserve 98-100% of other vernal pools.*
- *Participation in NCCP [sic] involving on-site preservation of large portions of coastal sage scrub habitat.*
- *Incorporate 90% of Stipa grassland on-site into designated open space and maintain a corridor between preserved grassland habitat and the foothills to the east. Retain some non-native grassland along the US-Mexico border as foraging habitat, if possible.*
- *Mitigate impacts to native grasslands through preservation of 90% of the habitat, or, if preservation is not possible, then impacts shall be reduced through "in-kind" habitat creation/restoration and/or enhancement.*
- *Preserve drainages and incorporate buffers for 13 acres of wetlands.*
- *Preserve any newly detected populations of variegated dudleya and San Diego button-celery in designated open space.*

The mitigation measures identified above have been incorporated into the Project-specific mitigation requirements set forth in SEIR Section 2.2.5.2 as necessary and appropriate to reduce Project-specific impacts to biological resources to less than significant levels. Impacts to jurisdictional areas are addressed by Mitigation Measures M-BI-22a and M-BI-22b. Impacts to variegated dudleya and San Diego button-celery would be addressed with Mitigation Measures M-BI-1 and M-BI-2, respectively.

Impacts to occupied vernal pools are addressed by Mitigation Measures M-BI-7a and M-BI-7b. It should be noted that the Project would impact 100% of the on-site vernal and road pools, which is not consistent with the mitigation in the EOMSP EIR requiring avoidance of 98-100% of the vernal pools outside the J-22 complex. However, the on-site vernal and road pools are characterized as generally low quality and have been disturbed by on-going U.S. Border Patrol activity as well as off-road vehicles. Additionally, preservation of the on-site vernal and road pools would result in areas of isolated habitat that would contribute little to the long-term survivability of sensitive plant and animal species in the region. Rather than preserving the on-site habitat as recommended by the EOMSP Final EIR, the Project instead would provide for a combination of preservation and restoration of vernal pool habitat within Otay Mesa on a site that contains higher quality vernal pools and that is surrounded by natural open space that supports a variety of sensitive species. The currently proposed mitigation is supported by the Wildlife Agencies, who have determined that the proposed mitigation would be superior to on-site preservation. Additionally, although the EOMSP

Final EIR identifies impacts to vernal pool habitat as significant and unmitigable, the proposed mitigation would ensure that there is no net loss of vernal pool habitat or genetic variability in the fairy shrimp population; as such, with implementation of the required mitigation, impacts would be reduced to a level below significant.

Impacts to saltgrass grassland and non-native grassland are addressed by Mitigation Measure M-BI-20. It should be noted that impacts to saltgrass grassland, a native plant community, are proposed because preservation of the 0.19 acre that occurs on-site would result in a small isolated patch of habitat, while the proposed mitigation for this community would instead provide for replacement habitat at a 2:1 ratio on a mitigation parcel that is adjacent to other open space lands and where numerous sensitive resources exist. Implementation of Mitigation Measure M-BI-20 would therefore be superior to on-site mitigation by restoring and preserving "in-kind" replacement habitat, and with implementation of the required mitigation the impact would be reduced to a level below significant.

2.2.5.2 Project-Specific Mitigation

This section incorporates feasible mitigation scenarios that could avoid, minimize, rectify and/or reduce over time, each of the significant environmental effects identified in the above sections. Table 2.2-5, *Mitigation for Impacts to Vegetation Communities*, provides a summary of the proposed mitigation for impacts to vegetation communities.

M-BI-1: **VARIEGATED DUDLEYA TRANSLOCATION: [DPW] [Grading Permit]**
Intent: In order to mitigate for the impacts to variegated dudleya, which is a sensitive biological resource pursuant to the Biological Mitigation Ordinance (BMO), salvage and translocation of on-site populations shall occur. **Description of Requirement:** Impacts to 3,465 individuals of variegated dudleya shall be mitigated through the salvage and translocation of the on-site populations. The variegated dudleya shall be salvaged and translocated to the Lonestar Parcels and incorporated into the vernal pool and vernal pool watershed creation and restoration effort required pursuant to Mitigation Measure M-BI-7a, as documented in the Biological Technical Report prepared by HELIX Environmental Planning, Inc. (HELIX) dated June 23, 2010. Salvage and translocation shall occur in accordance with the Project's Vernal Pool Preserve Restoration Plan prepared by HELIX (July 2, 2010. **Documentation:** The applicant shall provide evidence that translocation activities have commenced in a manner consistent with the rare plant salvage and translocation sections of the Vernal Pool Preserve Restoration Plan. **Timing:** Prior to the issuance of on-site grading or clearing permits, the applicant shall commence implementation of the salvage and translocation sections of the Vernal Pool Preserve Restoration Plan. **Monitoring:** The Department of Planning and Land Use shall review the documentation for conformance with this condition and the approved Vernal Pool Preserve Restoration Plan.

M-BI-2: **SAN DIEGO BUTTON-CELERY TRANSLOCATION: [DPW] [Grading Permit]**
Intent: In order to mitigate for the impacts to San Diego button-celery, which is a sensitive biological resource pursuant to the Biological Mitigation Ordinance (BMO), salvage and translocation of on-site populations shall occur. **Description of Requirement:** Impacts to three San Diego button-celery individuals shall be mitigated through the salvage and translocation of the on-site populations. The San Diego button-celery shall be salvaged and translocated to the Lonestar Parcels and incorporated into the

vernal pool and vernal pool watershed creation and restoration effort required pursuant to Mitigation Measure M-BI-7a, as documented in the Biological Technical Report prepared by HELIX Environmental Planning, Inc. (HELIX) dated June 23, 2010. Salvage and translocation shall occur in accordance with the Project's Vernal Pool Preserve Restoration Plan prepared by HELIX (July 2, 2010). **Documentation:** The applicant shall provide evidence that translocation activities have commenced in a manner consistent with the rare plant salvage and translocation sections of the Vernal Pool Preserve Restoration Plan. **Timing:** Prior to the issuance of on-site grading or clearing permits, the applicant shall commence implementation of the salvage and translocation sections of the Vernal Pool Preserve Restoration Plan. **Monitoring:** The Department of Planning and Land Use shall review the documentation for conformance with this condition and the approved Vernal Pool Preserve Restoration Plan.

M-BI-3: **SPREADING NAVARRETIA TRASNLOCATION: [DPW] [Grading Permit]**
Intent: In order to mitigate for the impacts to spreading navarretia, which is a sensitive biological resource pursuant to the Biological Mitigation Ordinance (BMO), salvage and translocation of on-site populations shall occur. **Description of Requirement:** Impacts to three individuals of spreading navarretia shall be mitigated through the salvage and translocation of the on-site populations. The spreading navarretia shall be salvaged and translocated to the Lonestar Parcels and incorporated into the vernal pool and vernal pool watershed creation and restoration effort required pursuant to Mitigation Measure M-BI-7a, as documented in the Biological Technical Report prepared by HELIX Environmental Planning, Inc. (HELIX) dated June 23, 2010. Salvage and translocation shall occur in accordance with the Project's Vernal Pool Preserve Restoration Plan prepared by HELIX (July 2, 2010). **Documentation:** The applicant shall provide evidence that translocation activities have commenced in a manner consistent with the rare plant salvage and translocation sections of the Vernal Pool Preserve Restoration Plan Plan. **Timing:** Prior to the issuance of on-site grading or clearing permits, the applicant shall commence implementation of the salvage and translocation sections of the Vernal Pool Preserve Restoration Plan. **Monitoring:** The Department of Planning and Land Use shall review the documentation for conformance with this condition and the approved Vernal Pool Preserve Restoration Plan.

M-BI-4: **SAN DIEGO BARREL CACTUS TRANSLOCATION: [DPW] [Grading Permit]**
Intent: In order to mitigate for the impacts to San Diego barrel cactus, which is a sensitive biological resource pursuant to the Biological Mitigation Ordinance (BMO), salvage and translocation of on-site populations shall occur. **Description of Requirement:** Prior to the issuance of grading or clearing permits, impacts to 31 San Diego barrel cactus individuals shall be mitigated through the salvage and translocation of the on-site populations. The San Diego barrel cactus individuals shall be salvaged and translocated to the Lonestar Parcels and incorporated into the vernal pool and vernal pool watershed creation and restoration effort required pursuant to Mitigation Measure M-BI-7a, as documented in the Biological Technical Report prepared by HELIX Environmental Planning, Inc. (HELIX) dated June 23, 2010. Salvage and translocation shall occur in accordance with the Project's Vernal Pool Preserve Restoration Plan prepared by HELIX (July 2, 2010). **Documentation:** The applicant shall provide evidence that translocation activities have commenced in a manner consistent with the Sensitive rare plant salvage and translocation sections of the Vernal Pool Preserve Restoration Plan. **Timing:** Prior to

the issuance of on-site grading or clearing permits, the applicant shall commence implementation of the salvage and translocation sections of the Vernal Pool Preserve Restoration Plan. **Monitoring:** The Department of Planning and Land Use shall review the documentation for conformance with this condition and the approved Vernal Pool Preserve Restoration Plan.

M-BI-5: **SAN DIEGO MARSH-ELDER TRANSLOCATION: [DPW] [Grading Permit]**
Intent: In order to mitigate for the impacts to San Diego marsh-elder, which is a sensitive biological resource pursuant to the Biological Mitigation Ordinance (BMO), salvage and translocation of on-site populations shall occur. **Description of Requirement:** Prior to the issuance of grading or clearing permits, all eleven (11) San Diego marsh-elder plants within the Project's impact area shall be salvaged and stored in a nursery. As required by San Diego Marsh-elder Translocation Plan prepared by HELIX (July 2, 2010), immediately following the completion of grading of the site, the eleven individuals must be translocated to the realigned drainage channel on-site. If the salvaged plants do not survive the collection, storage, and transplantation, they will be replaced by container stock grown from local sources. Translocation shall occur in a manner consistent with the approved San Diego Marsh-Elder Translocation Plan prepared by HELIX (July 2, 2010). **Documentation:** The applicant shall provide evidence that translocation activities have commenced in a manner consistent with the San Diego Marsh-elder Translocation Plan. **Timing:** Prior to the issuance of on-site grading or clearing permits, the applicant shall commence implementation of the San Diego Marsh-elder Translocation Plan. **Monitoring:** The Department of Planning and Land Use shall review the documentation for conformance with this condition and the approved San Diego Marsh-elder Translocation Plan.

M-BI-6: Mitigation Measure M-BI-20 shall apply.

M-BI-7a: **VERNAL POOLS: [DPW] [Grading Permit]**
Intent: In order to mitigate for impacts to 0.14 acre of vernal pools and 0.10 acre of road pools containing Riverside or San Diego fairy shrimp, which are sensitive resources pursuant to the Biological Mitigation Ordinance (BMO), vernal pool preservation, restoration, and creation shall occur. **Description of Requirement:** Prior to the issuance of grading or clearing permits, mitigation for impacts to 0.14 acre of vernal pools and 0.10 acre of road pools containing Riverside or San Diego fairy shrimp shall occur in conformance with the Project's Vernal Pool Preserve Restoration Plan prepared by HELIX (July 2, 2010), and shall include preservation, restoration, and creation within Otay Mesa on the Lonestar Parcels. The Lonestar parcels contain 68.72 acres of vegetation (mostly non-native grassland) designated as San Diego Fairy Shrimp Critical Habitat. The Project applicant shall preserve the existing 0.66 acre area with vernal pools and road pools occupied with fairy shrimp, and shall also create/restore an additional 0.41 acre of vernal pools within the Lonestar Parcels. Additionally, the mitigation shall include the restoration of approximately 4.50 acres of vernal pool watersheds. The restoration area shall be temporarily fenced with three-strand non-barbed wire until the area meets success criteria. **Documentation:** The applicant shall prepare a Vernal Pool Preserve Restoration Plan in conformance with the approved Off-Site Resource Management Plan dated June 23, 2010. Upon approval of the plan, the applicant shall enter into a secured agreement for the plan's implementation. **Timing:** Prior to the

issuance of grading or clearing permits, the applicant shall commence implementation of the Vernal Pool Preserve Restoration Plan. **Monitoring:** The Department of Planning and Land Use shall review the Vernal Pool Restoration Plan for conformance with this condition and the approved Resource Management Plan for the Off-Site Biological Open Space at Lonestar Ridge, prepared by HELIX (June 23, 2010).

M-BI-7b: **VERNAL POOL PROPAGATION: [DPW] [Grading Permit]**
Intent: In order to mitigate for impacts to 0.14 acre of vernal pools and 0.10 acre of road pools containing Riverside or San Diego fairy shrimp, which are sensitive resource pursuant to the Biological Mitigation Ordinance (BMO), the preserved/created/restored vernal pool habitat required pursuant to Mitigation Measure M-BI-6a shall be propagated with soil containing San Diego and Riverside fairy shrimp cysts. **Description of Requirement:** As a component of the Vernal Pool Preserve Restoration Plan required pursuant to mitigation measure M-BI-7a, requirements for salvaging soil from the impacted pools on- and off-site and translocating those soils to the created/restored pools shall be included. The plan shall require the inoculation of created/restored pools with San Diego and Riverside fairy shrimp at a 3:1 ratio (totaling a minimum of 0.72 acre), in accordance with the Project's Vernal Pool Preserve Restoration Plan, dated July 2, 2010. **Documentation:** The Project applicant shall prepare and submit a Vernal Pool Preserve Restoration Plan for the Lonestar site which includes requirements for translocating soil from impacted vernal and road pools. Upon approval of the plan, the applicant shall enter into a secured agreement for the plan's implementation. **Timing:** Prior to the issuance of grading or clearing permits, the applicant shall commence implementation of the Vernal Pool Preserve Restoration Plan. **Monitoring:** The Department of Planning and Land Use shall review the Vernal Pool Preserve Restoration Plan for conformance with this condition and the approved Resource Management Plan for the Off-Site Biological Open Space at Lonestar Ridge, prepared by HELIX (June 23, 2010).

M-BI-8: Mitigation Measures M-BI-7a and M-BI-7b shall apply.

M-BI-9: **QUINO CHECKERSPOT BUTTERFLY: [DPW] [Grading Permit]**
Intent: In order to mitigate for impacts to the Quino checkerspot butterfly, which is a sensitive biological resource pursuant to the Biological Mitigation Ordinance (BMO), habitat-based mitigation shall occur. **Description of Requirement:** Impacts to the Quino checkerspot butterfly shall be mitigated through the preservation of historically occupied habitat on the Lonestar Parcels, which has been designated as Quino checkerspot butterfly Critical Habitat. Additionally, host plant species and adequate nectar plants shall be included in the vernal pool watershed restoration efforts. The resulting mitigation shall provide for improved habitat value on these historically occupied parcels for the Quino checkerspot butterfly. **Documentation:** The Vernal Pool Preserve Restoration Plan required pursuant to mitigation measure M-BI-7a shall include provisions for providing host plant species and adequate nectar plants in the vernal pool watershed restoration efforts. Upon approval of the plan, the applicant shall enter into a secured agreement for the plan's implementation. In addition, the applicant shall provide evidence that the habitat at the Lonestar Parcels has been acquired and conserved in conformance with the Project's Resource Management Plan for the Off-Site Biological Open Space at Lonestar Ridge, prepared by HELIX (June 23, 2010). **Timing:** Prior to the issuance of grading or clearing permits, the applicant shall commence implementation

of the Vernal Pool Preserve Restoration Plan. **Monitoring:** The Department of Planning and Land Use shall review the Vernal Pool Preserve Restoration Plan for conformance with this condition and the approved Resource Management Plan for the Off-Site Biological Open Space at Lonestar Ridge (June 23, 2010). In addition, the Department of Planning and Land Use shall verify that habitat at the Lonestar Parcels has been acquired and preserved in accordance with the Project's Resource Management Plan for the Off-Site Biological Open Space at Lonestar Ridge (June 23, 2010).

M-BI-10: Mitigation Measure M-BI-20 shall apply.

M-BI-11a: **BRUSHING, GRADING, AND CLEARING RESTRICTIONS: [DPW] [Grading Permit]**

Intent: In order to mitigate for potential indirect impacts to breeding or nesting birds, including raptors and the burrowing owl that could occur during brushing, grading, and clearing activities. **Description of Requirement:** All brushing, grading, and clearing of vegetation shall occur outside of the bird breeding season (February 15 through August 31). **Timing:** Restrictions on the timing of brushing, grading, and clearing activities shall be listed on the Grading Permit prior to its approval **Documentation:** The DPW shall ensure that the grading permit includes a note prohibiting construction activities during the breeding season **Monitoring:** The DPW shall ensure that a note prohibiting brushing, grading, or clearing activities during the breeding season is included on the Grading Permit.

M-BI-11b **BRUSHING, GRADING, AND CLEARING RESTRICTIONS: [DPW] [Grading Permit]**

Intent: In order to mitigate for potential indirect impacts to the burrowing owl that could occur during brushing, grading, and clearing activities. **Description of Requirement:** A pre-construction survey shall be conducted to identify the known active burrows. Weed removal (by whacking, bush hogging, or mowing) shall be conducted as part of the pre-construction survey, under the guidance of a qualified biological monitor, to make all potential burrows more visible and to avoid injuring owls by burrow collapse. If owls are present in the burrows, a qualified biologist shall implement passive relocation measures (installation of one-way doors) in accordance with CDFG regulations (CDFG 1995). Once all owls have vacated the burrows (approximately 48 hours), a qualified biologist shall oversee the excavation and filling of the burrows. **Timing:** A pre-construction survey shall occur no more than 7 days prior to commencement of brushing, grading, or clearing activities to determine the presence or absence of burrowing owls. **Documentation:** The applicant shall prepare a pre-construction survey of areas proposed for clearing, brushing, or grading no more than 7 days prior to the commencement of such activities. If owls are determined to be present within the burrows, the applicant shall document passive relocation measures undertaken to preclude direct impacts to burrowing owl individuals, and the Project biologist shall certify that all owls have vacated any occupied burrows. **Monitoring:** The DPW shall ensure that a note requiring pre-construction surveys prior to brushing, grading, and clearing activities is included on the grading permit. The DPLU shall review the pre-construction survey results, along with evidence of any passive relocation measures, to ensure compliance with these requirements.

M-BI-11c: **CONSTRUCTION RESTRICTIONS: [DPW] [Improvement Plans and Building Permits]**

Intent: In order to mitigate for potential indirect impacts to breeding or nesting birds, including raptors and the burrowing owl that could be impacted by construction activities. **Description of Requirement:** Construction noise may not exceed 60 dB L_{eq} at any raptor or burrowing owl nest site. A pre-construction survey shall be conducted by a County-approved biologist to determine whether construction activities are located within 300 feet of burrowing owl burrows or within 800 feet of ground dwelling raptor nests. Construction activities may not proceed within 300 feet of active burrowing owl burrows or within 800 feet of active ground dwelling raptor nests. This limitation may only be waived by the Director of DPLU if a noise report by a County-approved noise consultant certifies that noise levels would not exceed 60 dB L_{eq} at the nest site. If the noise report determines that noise mitigation measures such as noise barriers are necessary to bring noise levels to below 60 dB L_{eq} at the nest site(s), they shall be installed prior to starting construction. **Timing:** These restrictions shall be documented on all Project improvement plans and building permits. Pre-construction surveys shall occur no more than 7 days prior to construction activities. If noise barriers or other noise mitigation measures are required, such measures shall be installed prior to commencement of any construction activities which occur within 300 feet of burrowing owl burrows or 800 feet of ground dwelling raptor nests. **Documentation:** The DPW shall ensure that improvement plans and building permits include a note documenting these requirements. The applicant shall prepare a pre-construction survey no more than 7 days prior to the commencement of construction activities to determine whether construction activities are proposed within 300 feet of burrowing owl burrows or 800 feet of ground dwelling raptor nests. If construction activities are proposed within 300 feet of burrowing owl burrows or 800 feet of ground dwelling raptor nests, the applicant shall provide a noise report prepared by a County-approved noise consultant specifying what mitigation measures, if any, are required to bring the noise level at the nest site(s) below 60 dB $L_{eq.}$ If noise mitigation measures are required, the applicant shall provide evidence (e.g., photos) that demonstrates that the measures have been undertaken in accordance with the noise report. **Monitoring:** The DPW shall review improvement plans and building permits to ensure that the required notes have been included on the plans. The DPLU shall review the pre-construction survey, noise report, and evidence that noise minimization measures have been undertaken to ensure that the requirements specified by this measure have been adhered to.

M-BI-11d: **BURROWING OWL: [DPW] [Grading Permit]**

Intent: In order to mitigate for impacts to burrowing owl habitat, artificial burrows shall be created in the off-site mitigation areas. **Description of Requirement:** As a component of the Vernal Pool Preserve Restoration Plan required pursuant to M-BI-7a, a plan for providing artificial burrows in the vernal pool watershed restoration areas shall be included. **Documentation:** The Vernal Pool Preserve Restoration Plan required pursuant to mitigation measure M-BI-7a shall include provisions for providing artificial burrows for the burrowing owl in the vernal pool watershed restoration efforts. Upon approval of the plan, the applicant shall enter into a secured agreement for the plan's implementation. **Timing:** Prior to the issuance of grading or clearing permits, the applicant shall commence implementation of the Vernal Pool Preserve Restoration Plan. **Monitoring:** The Department of Planning and Land Use shall review the Vernal Pool

Preserve Restoration Plan for conformance with this condition and the approved Resource Management Plan for the Off-Site Biological Open Space at Lonestar Ridge (dated June 23, 2010).

M-BI-12 Mitigation Measure M-BI-20 shall apply.

M-BI-13: Mitigation Measure M-BI-20 shall apply.

M-BI-14: Mitigation Measure M-BI-20 shall apply.

M-BI-15: Mitigation Measure M-BI-20 shall apply.

M-BI-16: Mitigation Measure M-BI-20 shall apply.

M-BI-17a: **FUGITIVE DUST: [DPW] [Grading Permit]**
Intent: In order to mitigate for indirect impacts to local wildlife due to fugitive dust, watering of unpaved surfaces shall occur during grading activities. **Description of Requirement:** Potential indirect impacts to local wildlife caused by fugitive dust shall be mitigated by requiring that active construction areas and unpaved surfaces be watered per County standards to reduce potential indirect impacts caused by fugitive dust. **Documentation:** Ensure that a note is included on Project grading plans indicating a requirement to water unpaved surfaces in accordance with County standards. **Timing:** Prior to approval of grading or clearing permits, the note shall be included on the Grading Plans. **Monitoring:** The Permit Compliance Engineer (as defined in Section 87.420 of the County Grading Ordinance) shall provide documentation/evidence of compliance with each note in the regular reports required pursuant to Section 87.420(a) of the County's Grading Ordinance.

M-BI-17b: Mitigation Measure 11c shall apply.

M-BI-17c: **ERRANT CONSTRUCTION IMPACTS: [DPLU] [Grading Permit]**
Intent: In order to prevent errant grading or clearing beyond the proposed construction limits that could impact sensitive vegetation communities or species intended for preservation. **Description of Requirement:** Orange construction fencing shall be installed around the approved limits of impacts to define the grading boundaries and prevent unintended impacts. **Documentation:** Grading plans shall include a note documenting this requirement. **Timing:** Prior to approval of grading or clearing permits, the note shall be included on the Grading Plans. **Monitoring:** The Permit Compliance Engineer (as defined in Section 87.420 of the County Grading Ordinance) shall provide documentation/evidence of compliance with each note in the regular reports required pursuant to Section 87.420(a) of the County's Grading Ordinance.

M-BI-17d: **INVASIVE PLANT SPECIES: [DPLU] [Grading Permit, Site Plan]**
Intent: In order to prevent intrusion of invasive plant species into adjacent open space areas on- and off-site, final landscaping plans shall exclude any invasive plant species. **Description of Requirement:** The Department of Planning and Land Use shall review final landscaping plans for the site to ensure that the proposed landscaping elements are consistent with the landscaping requirements specified on the approved Conceptual

Landscape Plan and to verify that landscaping elements adhere to the requirements of the MSCP Adjacency Guidelines and do not include any of the invasive plant species included on the Cal-IPC List A. **Documentation:** The applicant shall prepare final landscaping plans in conjunction with grading permits and future site plans in a manner consistent with the approved Conceptual Landscape Plan. The Final Landscape Plans shall demonstrate that no prohibited plant species are proposed on- or off-site. **Timing:** Prior to the issuance of grading permits and future site plans, a landscaping plan that does not include invasive plant species shall be approved by the Planning and Building Department. **Monitoring:** The [*DPLU, LA*] shall review proposed final landscaping plans to ensure conformance with the MSCP Adjacency Guidelines and to verify that no invasive plant species included on the Cal-IPC List A are proposed.

M-BI-18: Mitigation Measure M-BI-7a shall apply.

M-BI-19: **FRESHWATER MARSH MITIGATION: [DPW] [Grading Permits, Final Grading Inspection]**

Intent: In order to mitigate for Project impacts to 0.01 acre of freshwater marsh habitat off-site, habitat credits shall be purchased from an off-site mitigation bank. **Description of Requirement:** The Project applicant shall purchase habitat credits for0.03 acre of freshwater marsh habitat from the Rancho Jamul Mitigation Bank. **Documentation:** The applicant shall provide the DPLU with evidence that habitat credits for 0.03 acre of freshwater marsh habitat have been purchased from the Rancho Jamul Mitigation Bank. **Timing:** Prior to issuance of grading permits, the applicant shall provide the DPLU with evidence that adequate habitat credits have been purchased. **Monitoring:** The DPLU shall review the evidence provided by the applicant to ensure that the habitat preservation efforts have been completed prior to final grading inspection.

M-BI-20: **GRASSLAND PRESERVATION AND RESTORATION: [DPLU] [Grading Permits]**

Intent: In order to mitigate impacts to 0.19 acre of saltgrass grassland and 163.41 acres of non-native grassland, on- and off-site preservation and restoration of habitat shall occur. **Description of Requirement:** Impacts to 0.19 acre of saltgrass grassland shall be mitigated at a ratio of 2:1 for a total of 0.38 acre within the upland/watershed restoration area proposed around the restored vernal pools on the Lonestar Parcels. In addition, impacts to 163.41 acres of non-native grassland shall be mitigated at an approximate 1:1 ratio, which is greater than the typical 0.5:1 ratio because it is occupied habitat for the burrowing owl. It should be noted that a portion of the Project's impacts (between 18.0-21.9 acres of non-native grassland, depending on ultimate alignment of sewer infrastructure, and 0.1 acre of native grassland) would overlap with impacts proposed as part of the Otay Crossings project. Should the Otay Crossings project implement required mitigation for the 18.0-21.9 acres of non-native grassland and 0.1 acre of native grassland prior to implementation of the proposed Project, the Project's total required mitigation acreage shall be reduced accordingly.

The Project's required mitigation for impacts to native and non-native grasslands shall be accomplished through preservation and restoration. The mitigation program approved by the County and wildlife agencies requires at least half of the mitigation for non-native grassland to occur within the mesa and allows the remainder to occur outside of the mesa.

As a result, the approximate 1:1 non-native grassland mitigation ratio would be split, with approximately half of the required mitigation (79.45 acres) occurring on mesa and the remainder (81.70 acres) occurring off mesa. Mitigation for native grassland would occur entirely within the mesa. The required mitigation shall include the following:

- 67.65 acres of grassland mitigation would be achieved with the preservation of habitat within the Lonestar Parcels, as required pursuant to Mitigation Measure M-BI-7a. As a component of the required mitigation, 0.38 acre of saltgrass grassland would be incorporated into the upland/watershed restoration around the restored vernal pools. This measure would fully achieve the mitigation requirements for impacts to native grassland along with portions of the mitigation requirement for non-native grassland.
- Prior to recordation of a Final Map for Unit 1, 8.9 acres in the southeastern corner of the proposed Project site shall be preserved within a conservation easement. Of these 8.9 acres, 2.98 acres are part of the on-mesa mitigation for impacts to non-native grassland and are adjacent to the proposed open space for the Otay Crossings site to the east. A Final Resource Management Plan, which shall identify long-term funding sources and a habitat manager to maintain the proposed on-site open space, also shall be required prior to issuance of grading permits in conformance with the Project's On-Site Resource Management Plan, dated January 2010.
- Prior to final grading inspection, 2.98 acres within the proposed realigned drainage channel in the southeastern portion of the proposed Project site shall be vegetated with grassland species. This area shall not include the northern portion of the realigned drainage channel or the locations where riprap is proposed to be installed. Developed habitat in this area consists of decomposed granite spread out over an existing dirt road. The decomposed granite shall be removed and the underlying area will be allowed to revegetate as non-native grassland. Disturbed habitat shall remain as is. Fencing will be constructed along the outside edge of the drainage channel where it abuts proposed development (as required pursuant to Mitigation Measure M-BI-17d).
- In addition, prior to Final Map recordation, approximately 81.70 acres of grassland mitigation shall be achieved off mesa at a location to be approved by the County and the Wildlife Agencies.

Documentation: Final On-Site and Off-Site Resource Management Plans shall be prepared to identify a Resource Manager and long-term funding source for the on-mesa mitigation sites (i.e., on-site and within the Lonestar Parcels), and shall include all of the on-mesa requirements specified by this measure. The applicant shall prepare a Draft and Final Resource Management Plan documenting off-mesa preservation requirements in conformance with this condition, which shall identify a Resource Manager and long-term funding for the off-mesa site. Upon approval of the final plans, the applicant shall enter into a secured agreement for the plans' implementation. **Timing:** The 2.98 acres in the southeastern corner of the Project site shall be placed in a conservation easement prior to Final Map recordation for Unit 1 of the proposed Project. Prior to Final Map recordation, all on- and off-site Final Resource Management Plans shall be approved. **Monitoring:** The DPLU shall review the Final Resource Management Plans for compliance with this condition and the Conceptual On- and Off-Site Resource Management Plans (both dated June 23, 2010).

M-BI-21a: Mitigation Measure M-BI-20 shall apply.

M-BI-21b: **LIMITED BUILDING ZONE EASEMENT: [DPW] [FINAL MAP]**
Intent: To preclude potential impacts to the on-site biological open space area during long term operation of the Project due to fuel modification activities, a limited building zone easement shall be placed on a portion of the Project site. **Description of Requirement:** A limited building zone easement shall be granted to the County of San Diego over the portions of Lots 47, 48, 49, 50, 51, 52, 53 and 58 that are located within 40 feet of the realigned drainage channel (Tentative Map Lot "C"). The easement shall prohibit the construction of habitable structures within the limited building zone so as to ensure that the Project's required 40-foot fuel modification zone occurs outside of the realigned drainage. **Documentation:** The Department of Public Works shall ensure that the Final Map includes a note which documents the requirements of the Limited Building Zone Easement. The limits of the Limited Building Zone Easement shall also be delineated on the Final Map. **Timing:** Prior to recordation of the Final Map for Unit 3 that includes Lots 47, 48, 49, and 50 of Tentative Map 5505 and prior to the recordation of the Final Map for Unit 4 that includes Lots 51, 52, 53 and 58 of Tentative Map 5505. **Monitoring:** The Department of Public Works shall review the Final Maps for Unit 3 and Unit 4 for conformance with this mitigation measure.

M-BI-22a: **NON-WETLAND WATERS: [DPLU] [Grading Permits, Final Grading Inspection]**
Intent: In order to mitigate for impacts to 0.19 acre of unvegetated non-wetland waters of the U.S. and 0.01 acre of ephemeral pond, a combination of creation, restoration, and preservation shall occur. **Description of Requirement:** Impacts to 0.19 acre of unvegetated non-wetland waters of the U.S. (ephemeral streambed) and 0.01 acre of ephemeral pond shall be mitigated through a combination of the following: creation of 0.20 acre of ephemeral, non-wetland Waters of the U.S. within the realigned drainage channel on-site; preservation of 0.20 acre of ephemeral drainages on the Lonestar Parcels; and restoration of 0.40 acre of non-wetland Waters of the U.S. within the Rancho Jamul Wetland Mitigation Bank, in conformance with the terms and conditions of the Corps 404 Nationwide Permit and the RWQCB 401 Water Quality Certification for the Project. **Documentation:** The Project applicant shall provide documentation demonstrating compliance with this condition and the terms and conditions of the Corps 404 Nationwide Permit and the RWQCB 401 Water Quality Certification for the Project. **Timing:** Prior to the issuance of grading permits, the preservation and restoration efforts off-site shall commence. Prior to final grading inspection, the on-site creation of habitat shall be completed. **Monitoring:** The DPLU shall review the documentation for conformance with this condition.

M-BI-22b: Mitigation measure M-BI-7a shall apply.

M-BI-22c: Mitigation Measure M-BI-21b shall apply.

M-BI-23: Mitigation Measures M-BI-7a and M-BI-20 shall apply.

2.2.6 Conclusion

Significant Direct and Cumulative Impact BI-1: As previously noted, the proposed Project site is located within a Minor Amendment Area and Minor Amendment Area Subject to Special Considerations. In order for take coverage to be granted to the Project, the Project applicant must first complete a Minor Amendment process. If the County and Wildlife Agencies determine that the Project satisfies the preservation requirements of the Federal and California ESAs and NCCP, then the MSCP can be amended to include the Project site, and take authorization for covered species can be issued. With completion of a Minor Amendment process for the proposed Project site, which would be required prior to Project implementation, Take Authorization would be granted for covered sensitive plant and animal species occurring on the Project site. As such, compliance with M-BI-1 would mitigate impacts to 3,465 individuals of variegated dudleya to a level below significant because this species has been or will be adequately conserved with implementation of the County's MSCP Subarea Plan. All variegated dudleya individuals occurring on-site will be translocated to the upland portion of the vernal pool habitat creation/restoration area, in conformance with an approved Sensitive Species Translocation Plan.

Significant Direct and Cumulative Impact BI-2: As previously noted, the proposed Project site is located within a Minor Amendment Area and Minor Amendment Area Subject to Special Considerations. In order for take coverage to be granted to the Project, the Project applicant must first complete a Minor Amendment process. If the County and Wildlife Agencies determine that the Project satisfies the preservation requirements of the Federal and California ESAs and NCCP, then the MSCP can be amended to include the Project site, and take authorization for covered species can be issued. With completion of a Minor Amendment process for the proposed Project site, which would be required prior to Project implementation, Take Authorization would be granted for covered sensitive plant and animal species occurring on the Project site. As such, implementation of mitigation measure M-BI-2 would mitigate impacts to three individuals of San Diego button celery to a level below significant because this species has been or will be adequately conserved with implementation of the County's MSCP Subarea Plan. The mitigation requires relocation to the upland area surrounding the proposed vernal pool habitat creation/restoration area off-site, in accordance with the BMO requirements and an approved Sensitive Species Translocation Plan.

Significant Direct and Cumulative Impact BI-3: Implementation of mitigation measure M-BI-3 would mitigate impacts to three individuals of spreading navarretia to a level below significant through relocation to the upland area surrounding the proposed vernal pool habitat creation/restoration area off-site, in accordance with the BMO requirements and an approved Sensitive Species Translocation Plan.

Significant Direct and Cumulative Impact BI-4: As previously noted, the proposed Project site is located within a Minor Amendment Area and Minor Amendment Area Subject to Special Considerations. In order for take coverage to be granted to the Project, the Project applicant must first complete a Minor Amendment process. If the County and Wildlife Agencies determine that the Project satisfies the preservation requirements of the Federal and California ESAs and NCCP, then the MSCP can be amended to include the Project site, and take authorization for covered species can be issued. With completion of a Minor Amendment process for the proposed Project site, which would be required prior to Project implementation, Take Authorization would be granted for covered sensitive plant and animal species occurring on the Project site. As such, implementation of the required mitigation measure would reduce impacts to 31 San Diego barrel cactus to less than significant levels because this species has been or will be adequately conserved with implementation

of the County's MSCP Subarea Plan. All San Diego barrel cactus individuals would be salvaged and translocated to the off-site vernal pool habitat creation/restoration area.

Significant Direct and Cumulative Impact BI-5: Implementation of mitigation measure M-BI-5 would ensure that all impacts to San Diego marsh-elder would be fully mitigated to comply with the standards of the BMO. Impacts would be reduced to a level below significance.

Significant Direct and Cumulative Impact BI-6: Implementation of mitigation measure M-BI-20 (as required by mitigation measure M-BI-6) would ensure that all impacts to chocolate lily would be fully mitigated to comply with the standards of the BMO. The required mitigation would result in the conservation of 68.72 acres of habitat at the Lonestar parcels, which support approximately 50 chocolate lily individuals under existing conditions. The conservation of habitat supporting 50 individual chocolate lily plants would reduce Project impacts to four chocolate lily plants to less than significant levels.

Significant Direct and Cumulative Impact BI-7: As previously noted, the proposed Project site is located within a Minor Amendment Area and Minor Amendment Area Subject to Special Considerations. In order for take coverage to be granted to the Project, the Project applicant must first complete a Minor Amendment process. If the County and Wildlife Agencies determine that the Project satisfies the preservation requirements of the Federal and California ESAs and NCCP, then the MSCP can be amended to include the Project site, and take authorization for covered species can be issued. With completion of a Minor Amendment process for the proposed Project site, which would be required prior to Project implementation, Take Authorization would be granted for covered sensitive plant and animal species occurring on the Project site. As such, compliance with mitigation measures M-BI-7a and M-BI-7b would ensure that impacts to the endangered San Diego fairy shrimp would be mitigated to less than significant levels because this species has been or will be adequately conserved with implementation of the County's MSCP Subarea Plan. The mitigation also would occur according to the standards of the BMO, as well as all applicable state and/or federal regulations. A

Significant Direct and Cumulative Impact BI-8: As previously noted, the proposed Project site is located within a Minor Amendment Area and Minor Amendment Area Subject to Special Considerations. In order for take coverage to be granted to the Project, the Project applicant must first complete a Minor Amendment process. If the County and Wildlife Agencies determine that the Project satisfies the preservation requirements of the Federal and California ESAs and NCCP, then the MSCP can be amended to include the Project site, and take authorization for covered species can be issued. With completion of a Minor Amendment process for the proposed Project site, which would be required prior to Project implementation, Take Authorization would be granted for covered sensitive plant and animal species occurring on the Project site. As such, implementation of Mitigation Measures M-BI-7a and M-BI-7b would ensure that impacts to the endangered Riverside fairy shrimp would be mitigated to less than significant levels because this species has been or will be adequately conserved with implementation of the County's MSCP Subarea Plan. The mitigation also would occur according to the standards of the BMO, as well as all applicable state and/or federal regulations. Impacts would be mitigated to less than significant.

Significant Direct and Cumulative Impact BI-9: Implementation of mitigation measure M-BI-9 would ensure that impacts to the Quino checkerspot butterfly would be fully mitigated. The low quality habitat on-site would be replaced with high-quality habitat, with many Quino checkerspot

butterfly larval host plants and nectaring food sources, located in the off-site preserve. Impacts would be reduced to less than significant with implementation of the required mitigation.

Significant Direct and Cumulative Impact BI-10: As previously noted, the proposed Project site is located within a Minor Amendment Area and Minor Amendment Area Subject to Special Considerations. In order for take coverage to be granted to the Project, the Project applicant must first complete a Minor Amendment process. If the County and Wildlife Agencies determine that the Project satisfies the preservation requirements of the Federal and California ESAs and NCCP, then the MSCP can be amended to include the Project site, and take authorization for covered species can be issued. With completion of a Minor Amendment process for the proposed Project site, which would be required prior to Project implementation, Take Authorization would be granted for covered sensitive plant and animal species occurring on the Project site. As such, implementation of Mitigation Measure M-BI-20 would provide for preserved habitat for the grasshopper sparrow and would reduce Project impacts to this species to a level below significance because this species has been or will be adequately conserved with implementation of the County's MSCP Subarea Plan.

Significant Direct and Cumulative Impact BI-11: As previously noted, the proposed Project site is located within a Minor Amendment Area and Minor Amendment Area Subject to Special Considerations. In order for take coverage to be granted to the Project, the Project applicant must first complete a Minor Amendment process. If the County and Wildlife Agencies determine that the Project satisfies the preservation requirements of the Federal and California ESAs and NCCP, then the MSCP can be amended to include the Project site, and take authorization for covered species can be issued. With completion of a Minor Amendment process for the proposed Project site, which would be required prior to Project implementation, Take Authorization would be granted for covered sensitive plant and animal species occurring on the Project site. As such, implementation of mitigation measures M-BI-11a M-BI-11b, M-BI-11c, M-BI-11d and M-BI-20 would ensure that all impacts to burrowing owls would be mitigated to less than significant levels because this species has been or will be adequately conserved with implementation of the County's MSCP Subarea Plan. The proposed mitigation would occur according to all local, state and/or federal regulations. Proactive measures will be taken to preclude impacts during the breeding season, avoid harming any burrowing owls outside of the breeding season, and non-native grassland occupied by burrowing owls will be acquired for preservation. Impacts would be mitigated to less than significant.

Significant Direct and Cumulative Impact BI-12: As previously noted, the proposed Project site is located within a Minor Amendment Area and Minor Amendment Area Subject to Special Considerations. In order for take coverage to be granted to the Project, the Project applicant must first complete a Minor Amendment process. If the County and Wildlife Agencies determine that the Project satisfies the preservation requirements of the Federal and California ESAs and NCCP, then the MSCP can be amended to include the Project site, and take authorization for covered species can be issued. With completion of a Minor Amendment process for the proposed Project site, which would be required prior to Project implementation, Take Authorization would be granted for covered sensitive plant and animal species occurring on the Project site. As such, implementation of Mitigation Measure M-BI-20 would provide for preserved habitat for the northern harrier and would reduce the Project's impact to this species to a level below significance because this species has been or will be adequately conserved with implementation of the County's MSCP Subarea Plan.

Significant Direct and Cumulative Impact BI-13: Implementation of Mitigation Measure M-BI-20 would provide for preserved habitat for the white-tailed kite and would reduce the Project's impact to this species to a level below significance.

Significant Direct and Cumulative Impact BI-14: Implementation of Mitigation Measure M-BI-20 would provide for preserved habitat for the California horned lark and would reduce the Project's impact to this species to a level below significance.

Significant Direct and Cumulative Impact BI-15: Implementation of Mitigation Measure M-BI-20 would provide for preserved habitat for the loggerhead shrike and would reduce the Project's impact to this species to a level below significance.

Significant Direct and Cumulative Impact BI-16: As previously noted, the proposed Project site is located within a Minor Amendment Area and Minor Amendment Area Subject to Special Considerations. In order for take coverage to be granted to the Project, the Project applicant must first complete a Minor Amendment process. If the County and Wildlife Agencies determine that the Project satisfies the preservation requirements of the Federal and California ESAs and NCCP, then the MSCP can be amended to include the Project site, and take authorization for covered species can be issued. With completion of a Minor Amendment process for the proposed Project site, which would be required prior to Project implementation, Take Authorization would be granted for covered sensitive plant and animal species occurring on the Project site. As such, implementation of mitigation measures M-BI-20 would reduce Project impacts to this species to less than significant levels because this species has been or will be adequately conserved with implementation of the County's MSCP Subarea Plan. The required mitigation would result in the preservation of 163.41 acres of non-native grassland and 0.38 acres of saltgrass grassland, which would fully mitigate Project impacts to on-site foraging habitat for the golden eagle.

Significant Indirect Impact BI-17: Compliance with M-BI-17a through M-BI-17d would reduce indirect impacts to off-site vegetation communities to a level below significant through compliance with applicable County of San Diego standards and regulations. Specifically, these measures would reduce the potential for indirect impacts by imposing restrictions on construction activities so as to minimize indirect effects to adjacent habitats and/or species. M-BI-17a is intended to reduce the potential for indirect impacts to wildlife resulting from fugitive dust by requiring surface watering, which is an accepted practice by the SDAPCD for minimizing fugitive dust associated with construction. Compliance with M-BI-11c (as required by M-BI-17b) would ensure that indirect noise effects associated with Project construction would not produce noise levels in excess of 60 dB L_{eq} at any active nest sites. 60 dB L_{eq} was selected as an appropriate mitigation target because some professional studies, such as the Bioacoustics Research Team (1997), have concluded that 60 dB L_{eq} is a single, simple criterion to use as a starting point for passerine impacts until more specific research is done. Implementation of Mitigation Measure M-BI-17c would ensure that site grading and clearing activities do not occur beyond the approved limits of impact, thereby preventing incidental impacts to vegetation communities and sensitive species that may be present outside the planned area of impact. Finally, implementation of Mitigation Measure M-BI-17d would ensure that future landscaping for the site does not result in the introduction of exotic or invasive plant species that could affect the viability of nearby vegetation communities utilized by sensitive plant and animal species for habitat or foraging.

Significant Direct and Cumulative Impact BI-18: Implementation of mitigation measure M-BI-7a, as required by Mitigation Measure M-BI-18, would ensure that impacts to 0.14 acre of vernal pools would be addressed in accordance with the BMO requirements. Mitigation would be provided at a ratio greater than 3:1, resulting in a total mitigation area of 1.07 acre of vernal pool habitat, which also would serve as mitigation for impacts to Riverside fairy shrimp and San Diego fairy shrimp. Impacts to vernal pools would be reduced a level of less than significant.

Significant Direct and Cumulative Impact BI-19: Implementation of mitigation measure M-BI-19 would result in the purchase of habitat credits for 0.03 acre of freshwater marsh within the Rancho Jamul Mitigation Bank, which would fully mitigate Project impacts to freshwater marsh according to the standards of the BMO, as well as all applicable state and/or federal regulations. After mitigation, impacts to freshwater marsh habitat would be less than significant.

Significant Direct and Cumulative Impact BI-20: Implementation of mitigation measure M-BI-20 would ensure that impacts to 0.19 acre of saltgrass grassland would be addressed in accordance with the BMO requirements. Off-site mitigation would be provided at a ratio of 2:1, resulting in a net increase of 0.19 acre of native grassland. Impacts to native grassland would be reduced to a level below significance. In addition, implementation of mitigation measure M-BI-20 would result in the preservation/restoration of non-native grassland habitat at a ratio of approximately 1:1 as required mitigation for Project impacts to 163.41 acres of non-native grassland on- and off-site. Implementation of the required mitigation would reduce Project impacts to non-native grassland to a level below significant. Implementation of mitigation measure M-BI-20 also would preserve non-native grassland and reduce the Project's cumulative impact on raptor foraging habitat. Impacts would be mitigated to less than significant.

Significant Direct and Cumulative Impact BI-21: Implementation of Mitigation Measure M-BI-20, as required by Mitigation Measure M-BI-21a, would result in the preservation/restoration of non-native grassland habitat at a ratio of approximately 1:1 as required mitigation for Project impacts to 163.41 acres of non-native grassland on- and off-site. Implementation of the required mitigation would reduce Project impacts to non-native grassland to a level below significant. Implementation of mitigation measure M-BI-20 also would preserve non-native grassland and reduce the Project's cumulative impact on raptor foraging habitat. In addition, implementation of Mitigation Measure M-BI-21b would preclude long-term impacts to revegetated areas along the realigned drainage, due to fuel modification activities, by placing areas within 40 feet of the realigned drainage channel within a limited building zone easement. Impacts would be mitigated to less than significant.

Significant Direct and Cumulative Impact BI-22: Implementation of Mitigation Measures M-BI-22a and M-BI-7a would ensure that Project impacts to all jurisdictional areas (including impacts to road and vernal pools) would be fully mitigated in accordance with all applicable local, state, and federal requirements. Implementation of Mitigation Measure M-BI-21b, as required by Mitigation Measure M-BI-22c, would ensure that ephemeral non-wetland habitat created within the realigned drainage is not affected by long-term fuel modification activities. Impacts would be mitigated to less than significant.

Significant Cumulative Impact BI-23: Implementation of Mitigation Measures M-BI-20, as required by Mitigation Measure M-BI-23, would provide for habitat for the western spadefoot toad and would reduce the Project's cumulative impact to this species to less than significant.

Table 2.2-3 COUNTY SENSITIVE PLANT SPECIES OBSERVED OR WITH POTENTIAL TO OCCUR

SPECIES	LISTING OR SENSITIVITY*	POTENTIAL TO OCCUR
San Diego thorn-mint (*Acanthomintha ilicifolia*)	FT/SE CNPS List 1B.1 County Group A	Low. Occurs on friable clay soils, often in open areas within grasslands. Although suitable habitat occurs on site, would likely have been observed during vernal pool surveys if present.
Shaw's agave (*Agave shawia*)	--/-- CNPS List 2.1 Count Group B	Low. Occurs in coastal sage scrub and coastal bluff scrub. Suitable habitat does not occur on site.
San Diego ambrosia (*Ambrosia pumila*)	FE/-- CNPS List 1B.1 County Group A	Low. Generally found along creeks or seasonal drainages along the periphery of willow riparian areas. Habitat on site is only marginally suitable.
Golden-spined cereus (*Bergerocactus emoryi*)	--/-- CNPS List 2.2 County Group B	Very low. Generally found in maritime succulent scrub, which does not occur on site.
Orcutt's brodiaea (*Brodiaea orcuttii*)	--/-- CNPS List 1B.1 County Group A	Low. Occurs in vernal pool communities and ephemeral streams and seeps in Riverside and San Bernardino counties south to Baja. Would have been observed during vernal pool surveys if present.
Dunn's mariposa lily (*Calochortus dunnii*)	--/SR CNPS List 1B.2 County Group A	Low. Typically occurs in chaparral growing on metavolcanic or gabbro soils. The site is below elevation range of this species and lacks appropriate habitat.
Wart-stemmed ceanothus (*Ceanothus verrucosus*)	--/-- CNPS List 2.2 County Group B	Very low. Occurs in coastal and maritime chaparral communities. Suitable conditions do not occur on site.
Summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*)	--/-- CNPS List 1B.2 County Group A	None. A conspicuous shrub occurring in chaparral, which does not occur on site. Would have been observed if present.
Small-flowered morning-glory (*Convolvulus simulans*)	--/-- CNPS List 4.2 County Group D	Observed in northern portion of site. Habitat is friable clay soils in open areas within coastal sage scrub, chaparral, or grasslands.
Orcutt's bird's-beak (*Cordylanthus orcuttianus*)	--/-- CNPS List 2.1 MSCP Covered County Group B	Low. Annual species occurring in seasonal drainages and scrub communities adjacent to riparian areas. Suitable habitat does not occur on site.
Tecate cypress (*Cupressus forbesii*)	--/-- CNPS List 1B. 1 County Group A	None. Evergreen tree occurring in southern mixed chaparral and cypress forest. Suitable habitat does not occur on site. Would have been observed if present.
Otay tarplant (*Deinandra conjugens*)	FT/SE CNPS List 1B. I County Group A	Low. Occurs on friable clay soils in grasslands or very open coastal sage scrub. Although grasslands and clay soils occur on site, this species was not detected during rare plant surveys.
Western dichondra (*Dichondra occidentalis*)	--/-- CNPS List 4.2 County Group D	Very low. Found in chaparral, coastal sage scrub, and among rocky outcrops in grasslands. Suitable habitat does not occur on site,
Orcutt's dudleya (*Dudleya attenuata ssp. orcuttii*)	--/-- CNPS List 2.1 County Group B	Low. Found in coastal sage scrub openings, typically in coastal situations. Suitable habitat does not occur on site.
Variegated dudleya (*Dudleya variegata*)	--/-- CNPS List 1B.2 County Group A	Occurs in south-central portion of site. Grows on rocky clay soils in grasslands, sage scrub, and chaparral.
Palmer's goldenbush (*Ericameria Palmeri ssp. pa/men*)	--/-- CNPS List 2.2 County Group B	Very low. Typically occurs in chaparral and along coastal drainages. A large shrub that would likely have been detected if present on site.
San Diego button-celery (*Eryngium aristulatum* ssp. *parishii*)	FE/SE CNPS List 1B.1 County Group A	Observed within a vernal pool in the eastern portion of the site. Typical habitat is on the periphery of vernal pools and in areas with mima mound topography.
San Diego barrel cactus (*Ferocactus viridescens*)	--/-- CNPS List 2.1	Observed on the hill in the south-central portion of the site. Generally found on Diegan coastal sage scrub hillsides, often at

Table 2.2-3 COUNTY SENSITIVE PLANT SPECIES OBSERVED OR WITH POTENTIAL TO OCCUR

SPECIES	LISTING OR SENSITIVITY*	POTENTIAL TO OCCUR
	County Group B;	the crest of slopes among cobbles; occasionally found on the periphery of vernal pools and mima mounds
Chocolate lily (*Fritillaria biflora*)	--/-- not CNPS listed County Group D	Observed on the hill in the southern portion of the site. Typically found in native or non-native grasslands, as well as openings within sage scrub and chaparral, or native perennial grasslands, often in areas with clay soils.
Palmer's grapplinghook (*Harpagonella palmeri*)	--/-- CNPS List 4.2 Count Group B	Low to moderate. Occurs on grassy slopes and open coastal sage scrub with clay soil. Would have been observed if present.
Graceful tarplant (*Holocarpha virgata ssp. elongata*)	--/-- CNPS List 4.2 County Group D	Moderate. Generally found in grasslands and very open scrublands. Reported to occur in scattered locations in O'Neal Canyon to the east. Potentially suitable habitat occurs on site.
San Diego marsh-elder (*Iva hayesiana*)	--/-- CNPS List 2.2 County Group B	Observed along the drainage in the northeastern portion of the site. Typical habitat includes reeks of intermittent streambeds with open riparian canopy, allowing substantial sunlight to penetrate; often found on sandy alluvial embankments with cobbles.
Heart-leaved pitcher sage (*Lepechinia cardiophylla*)	--/-- CNPS List 1B.2 County Group A	Low. Occurs in thick chaparral and known in California from only 10 sites. Would have been observed if present.
Gander's pitcher sage (*Lepechinia ganderi*)	--/-- CNPS List 1B.3 MSCP NE County Group A	Low. Occurs on metavolcanic soils in chaparral. Suitable conditions do not occur on site.
Willowy monardella (*Monardella linoides* ssp. *viminea*)	FE/SE CNPS 1B.1 County Group A	Very low. Typically occurs in riparian scrub, and sometimes chaparral or coastal sage scrub associated with drainages. Would likely have been observed if present.
San Diego goldenstar (*Muilla clevelandii*)	--/-- CNPS List 1B. I County Group A	Moderate. Generally grows on clay soils in grasslands, often in association with mima mounds and vernal pools. Marginally suitable habitat occurs on site. Reported to the east of the project site.
Little mousetail (*Myosurus minimus* ssp. *apus*)	--/-- CNPS List 3.1 County Group A	Low. Occurs in vernal pool communities, typically in deeper areas. Although vernal pools occur on site, their disturbed state provides little suitable habitat for this species.
Spreading navarretia (*Navarretia fossalis*)	FT/-- CNPS List 1B.1 County Group A	Observed in one vernal pool in the eastern portion of the site.
Dehesa bear grass (*Nolina interrata*)	--/SE CNPS List 1B.1 County Group A	Low. Occurs in mafic chaparral such, often with gabbroic soils. Suitable habitat does not occur on site.
Snake cholla (*Opuntia californica* var. *californica*)	--/-- CNPS List 1B.1 County Group A	Low. Chaparral and coastal sage scrub from Point Loma south to Chula Vista and Baja. Although historically reported on Otay Mesa, not known from the project vicinity.
California Orcutt grass (*Orcuttia californica*)	FE/SE CNPS List 1B. 1 County Group A	Low. Occurs in vernal pool communities. Would likely have been observed during vernal pool or rare plant surveys if present.
Short-lobed broomrape (*Orobancheparishii* ssp. *brachyloba*)	--/-- CNPS List 4.2 County Group A	None. Occurs on sandy substrates in coastal bluff scrub and coastal dunes. Appropriate habitat does not occur on site.
Otay Mesa mint (*Pogogyne nudiuscula*)	FE/SE CNPS List 1B.1 County Group A	Low. Occurs in Otay Mesa vernal pool communities. Would likely have been observed during vernal pool or rare plant surveys if present.
Nuttall's scrub oak (*Quercus dumosa*)	--/-- CNPS List 1B.1 County Group A	Low. A conspicuous shrub occurring in chaparral and coastal sage scrub. Suitable habitat does not occur on site. Would have been observed if present.
Munz's sage	--/--	Moderate. A shrub that occurs in coastal sage scrub and chaparral

Table 2.2-3 COUNTY SENSITIVE PLANT SPECIES OBSERVED OR WITH POTENTIAL TO OCCUR

SPECIES	LISTING OR SENSITIVITY*	POTENTIAL TO OCCUR
(*Salvia munzii*)	CNPS List 2.2 Count Group B	below 1,500 feet. Suitable shrub habitat does not occur on site.
Parry's tetracoccus (*Tetracoccus dioicus*)	--/-- CNPS List 1B.2 County Group A	Very low. Occurs in low, moderately dense chamise chaparral. Suitable habitat does not occur on site.
Ashy spike-moss (Selaginella cinerascens)	--/-- CNPS List 4.1 County Group D	Present. This species was recorded in one location in the south-central portion of the site.

*Key: USFWS Codes: **FE** – Federally listed endangered; **FT** – Federally listed threatened. CDFG Codes: **SE** – State listed endangered; **SR** – State listed rare; **ST** – State listed threatened; **CSC** – California species of special concern. County of San Diego Codes: **Group A** – Plants rare, threatened, or endangered in California or elsewhere; **Group B** – Plants rare, threatened, or endangered in California but more common elsewhere; G**roup C** – Plants that may be quite rare, but more information is needed to determine rarity status; **Group D** – Plants of limited distribution and are uncommon, but not presently rare or endangered. CNPS Codes: **1A** – Presumed extinct; **1B** – Rare, threatened, or endangered in California and elsewhere, and eligible for state listing; **2** – Rare, threateed, or endangered in California but more common elsewhere, and eligible for state listing; **3** – Distribution, endangerment, ecology, and/or taxonomic information needed, and some are eligible for state listing; **4** – A watch list for species of limited distribution requiring monitoring of population status, though few (if any) are eligible for state listing; **.1** – Seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat; **.2** – Fairly endangered in California (20 to 80 percent occurrences threatened); **.3** – Not very endangered in California (less than 20 percent of occurrences threatened, or no current threats known).

Table 2.2-4 COUNTY SENSITIVE ANIMAL SPECIES OBSERVED OR WITH POTENTIAL TO OCCUR

SPECIES	LISTING OR SENSITIVITY*	POTENTIAL TO OCCUR
INVERTEBRATES		
San Diego fairy shrimp (*Branchinecta sandiegonensis*)	FE/-- County Group 1 MSCP Covered	Observed in one vernal; pool and nine road pools on site. Typical habitat includes seasonal pools that occur in tectonic swales or earth slump basins and other areas of shallow and standing water, often in patches of grassland and agriculture interspersed in coastal sage scrub and chaparral.
Quino checkerspot butterfly (*Euphydryas editha quino*)	FE/-- County Group 1	Observed in 2005 within non-native grassland on site. Typical habitat includes open sage scrub or grassland with areas of dwarf plantain.
Harbison's dun skipper (*Euphyes vestris harbisoni*)	--/-- County Group 1	Low. Host plant San Diego sedge (*Carex spissa*) not observed on site.
Hermes copper (*Lycaena hermes*)	--/-- County Group 1	Low. Host plant spiny redberry (*Rhamnus crocea*) not observed on site.
Thorne's hairstreak (*Mitoura thornei*)	--/-- County Group 1	Low. Closely associated with food plant Tecate cypress (*Cupressus forbesii*) and closed cone forest habitats. Appropriate habitat does not occur on or near the site.
Riverside fairy shrimp (*Streptocephalus woottoni*)	FE/-- County Group 1	Observed in one vernal pool and two road pools on site. Typically occurs in deep vernal pools and seasonal wetlands.
VERTEBRATES		
Amphibians and Reptiles		
Silvery legless lizard (*Anniella nigra argentea*)	--/CSC County Group 2	Low. Burrows in loose soils, sandy washes, or leaf litter. Occurs in moist habitats of chaparral, pine, and oak woodlands, and riparian streamside growth. Appropriate habitat limited on site.
Arroyo toad (*Bufo californicus*)	FE/CSC County Group 1	None. Found in washes, streams, and arroyos in semiarid areas. Prefer shallow pools and open, sandy stream terraces or sand bars with cottonwoods, willows, or sycamores. Suitable habitat does not occur on site.
Orange-throated whiptail (*Cnemidophorus hyperythrus*)	--/CSC County Group 2	Low to moderate. Prefers scrub habitats with patches of brush and rocks for cover. Project site is dominated by grasslands and suitable shrub cover is not present.
Red-diamond rattlesnake (*Crotalus exsul*)	--/CSC County Group 2	Low. Occurs in coastal sage scrub and chaparral with abundant rocky outcrops. Suitable conditions do not occur on site.
Coronado skink (*Eumeces skiltonianus interparietalis*)	--/CSC County Group 2	Low to moderate. Occurs in grassland, scrublands, and cismontane woodlands with abundant leaf litter. Marginally suitable habitat occurs on site.
Coastal rosy boa (*Charina trivirgata roseofusca*)	--/CSC County Group 2	Low. Generally occurs in coastal sage scrub, particularly where rock outcrops are common. Suitable scrub habitat does not occur on site.
Coast horned lizard (*Phrynosoma coronatum*)	--/CSC County Group 2	Low to moderate. Prefers friable, rocky, or shallow soils in coastal sage scrub or chaparral. Require the presence of primary food source, harvester ants (Pogonomyrmex sp.). Suitable scrub habitat does not occur on site.
Coast patch-nosed snake (*Salvadora hexalepis virgultea*)	--/CSC County Group 2	Low. Found in coastal sage scrub, chaparral, riparian, grasslands, and agricultural fields (Zeiner et al. 1988). Prefers open habitats with friable or sandy soils, burrowing rodents for food, and enough cover to escape being preyed upon. Shrub cover on site likely too sparse to support this species.
Western spadefoot toad (*Spea hammondii*)	--/CSC County Group 2	Observed in two vernal pools and one road pool on site. Typical breeding habitat is open sage scrub, chaparral, or grasslands where there are temporary pools and friable soils.
Two-striped garter snake (*Thamnophis hammondii*)	---/CSC County Group 1	Observed in a drainage off site along the northern property boundary. Typical habitat is along permanent and intermittent streams bounded by dense riparian vegetation; also found in vernal pools and stock ponds.

Table 2.2-4 COUNTY SENSITIVE ANIMAL SPECIES OBSERVED OR WITH POTENTIAL TO OCCUR

SPECIES	LISTING OR SENSITIVITY*	POTENTIAL TO OCCUR
Birds		
Cooper's hawk (*Accipiter cooperii*)	--/CSC County Group 1	Low to moderate. Tends to inhabit lowland riparian areas and oak woodlands in proximity to suitable foraging areas such as scrublands or fields. Although no suitable nesting habitat occurs on site, foraging habitat is abundant.
Tricolored blackbird (*Agelaius tricolor*)	--/CSC County Group 1	Low. Occurs mostly in coastal lowland grasslands and wetlands. Would have been observed if present.
Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)	--/CSC County Group 1	Low. Occurs in coastal sage scrub on rocky hillsides and in canyons; also found in open sage scrub/grassy areas of successional growth. Suitable scrub habitat does not occur on site.
Grasshopper sparrow (*Ammodramus savannarum*)	--/-- County Group 1	Observed in the center of the site within non-native grassland. Typical habitat is dense grasslands that have little or no shrub cover.
Bell's sage sparrow (*Amphispiza belli belli*)	--/CSC County Group 1	Very low. Occurs in sunny, dry stands of coastal sage scrub or chaparral. Suitable scrub habitat does not occur on site.
Golden eagle (*Aquila chrysaetos*)	--/CSC County Group 1	Observed flying over the site. Typical foraging habitat includes grassy and open, shrubby habitats. Generally nests on remote cliffs; requires areas of solitude at a distance from human habitation
Burrowing owl (*Athene cunicularia*)	--/CSC County Group 1	Six occupied burrows and two individuals were observed on site. Typical habitat is grasslands, open scrublands, agricultural fields, and other areas where there are ground squirrel burrows or other areas in which to burrow.
Coastal cactus wren (*Campylorhynchus brunneicapillus sandiegonensis*)	--/CSC County Group 1	Very low. Occurs in coastal sage scrub with large cacti for nesting. No suitable habitat occurs on site.
Northern harrier (*Circus cyaneus*)	--/CSC County Group 1	Observed over the central portion of the site. Typical habitat includes grasslands, meadows, marshlands, and prairies.
White-tailed kite (*Elanus leucurus*)	--/Fully Protected County Group 1	Observed over the central portion of the site. Typical nesting habitat includes riparian woodlands and oak and sycamore groves. Foraging occurs over grassland habitats.
Southwestern willow flycatcher (*Empidonax traillii extimus*)	FE/-- County Group 1	None. Breeds within thickets of willows or other riparian understory usually along streams, ponds, lakes, or canyons. Migrants may be found among other shrubs in wetter areas. Suitable habitat does not occur on site.
California horned lark (*Eremophila alpestris actia*)	--/CSC County Group 2	Observed just below the eastern slopes of the hill in the southern portion of the site. Typical habitat includes sandy beaches, agricultural fields, grassland, and open areas.
Prairie falcon (*Falco mexicanus*)	--/CSC County Group 1	Low to moderate. Nests on cliffs or bluffs and forage over open desert scrub or grassland. Although potential foraging habitat occurs on site, it is largely disturbed and urbanized.
Peregrine falcon (*Falco peregrines*)	FE/SE County Group 1	Low. Rare fall and winter visitor. Prefers various coastal habitats for foraging and breeding.
Loggerhead shrike (*Lanius ludovicianus*)	--/CSC County Group 1	Observed in disturbed habitat in the southeastern portion of the site. Typical habitat includes open habitats including grasslands, shrublands, and ruderal areas with adequate perching locations.
Long-billed curlew (*Numenius amaericanus*)	--/CSC County Group 2	Very low. Occurs on tidal mudflats and open coastal grassland. Grasslands on site are largely unsuitable.
Coastal California gnatcatcher (*Polioptila californica californica*)	FT/CSC County Group 1	Very low. Generally occurs in coastal sage scrub and very open chaparral. No suitable scrub habitat occurs on site.
Least Bell's vireo (*Vireo bellii pusillus*)	FE/SE County Group 1	None. Prefers riparian woodland forest and is most frequent in dense, young willows, or mule fat understory areas with a canopy of tall willows. Currently restricted to major river systems in San Diego County. Suitable habitat does not occur on site.
Mammals		
Pallid bat (*Antrozous pallidus pacificus*)	--/CSC County Group 2	Low. Roosts in caves, mines, bridges, crevices, and abandoned buildings and trees. Appropriate roosting habitat absent. Could

Table 2.2-4 COUNTY SENSITIVE ANIMAL SPECIES OBSERVED OR WITH POTENTIAL TO OCCUR

SPECIES	LISTING OR SENSITIVITY*	POTENTIAL TO OCCUR
		forage throughout the site, but few potential roosting sites exist.
California pocket mouse (*Chaetodipus californicus femoralis*)	--/CSC County Group 2	Very low. Occurs in coastal sage scrub, chaparral, grasslands, and woodland habitats up to 7,900 feet. Suitable habitat does not occur on site.
San Diego pocket mouse (*Chaetodipus fallax fallax*)	--/CSC County Group 2	Low. Found in open areas of coastal sage scrub and weedy growth, often on sandy substrates. Although weedy grassland is abundant, suitable scrub cover is absent.
Spotted bat (*Euderma maculatum*)	--/CSC County Group 2	Very low. Roost in cliff cracks and outcrops; forage over open marshlands. No suitable roosting or foraging habitat occurs on site.
Greater western mastiff bat (*Eumops perotis californicus*)	--/CSC County Group 2	Very low. Roosts in crevices in cliff faces, and presence strongly tied to large (100 feet long or more) ponds for drinking. No suitable foraging or roosting habitat occurs on site.
San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)	--/CSC County Group 2	Low to moderate. Occurs primarily in open habitats including coastal sage scrub, chaparral, grasslands, croplands, and open, disturbed areas if there is at least some shrub cover present. Grassland is abundant on site, but shrubs are scarce.
Yuma myotis (*Myotis yumanensis*)	--/-- County Group 2	Very low. Occurs in and areas where it roosts in buildings, mines, caves, and crevices, and forages over permanent water sources. No suitable roosting or foraging habitat occurs on site.
San Diego desert woodrat (*Neotoma lepida intermedia*)	--/CSC County Group 2	Very low. Occurs in open chaparral and coastal sage scrub, often building large, stick nests in rock outcrops or around clumps of cactus or yucca. No suitable shrub cover occurs on site.
Southern grasshopper mouse (*Onychomys torridus ramona*)	--/CSC County Group 2	Very low. Generally found in desert habitats with loose, friable soils. Less common in coastal scrub and chaparral. Suitable shrub cover does not occur on site.
Pacific pocket mouse (*Perognathus longimembris pacificus*)	FE/CSC County Group 1	Low. Found in coastal sage scrub, but more often in sandy washes. Known currently from one location in Orange County and one on Camp Pendleton. Site outside of species' known range.
Townsend's big-eared bat (*Plecotus townsendiipallescens*)	--/CSC County Group 2	Very low. Typically roosts in caves and mines and forages for moths in forested areas. No suitable roosting or foraging habitat occurs on site.

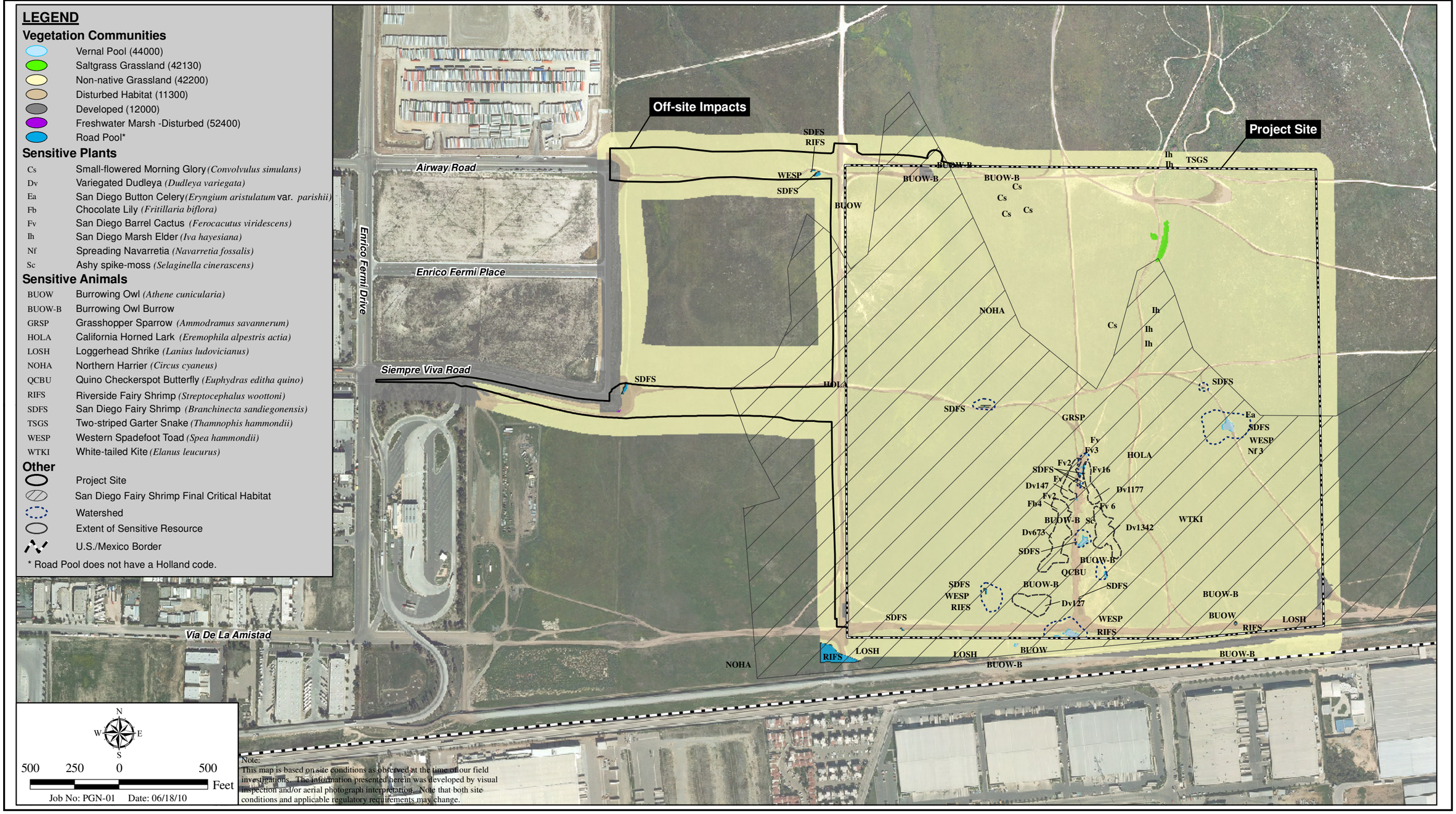
*Key: USFWS Codes: **FE** – Federally listed endangered; **FT** – Federally listed threatened. CDFG Codes: **SE** – State listed endangered; **SR** – State listed rare; **ST** – State listed threatened; **CSC** – California species of special concern.

Table 2.2-5 MITIGATION FOR IMPACTS TO VEGETATION COMMUNITIES (Acres)

Vegetation Community	Existing Acreage (On-Site)	Total Project Impacts	Required Mitigation Ratio	Proposed Mitigation			
				Preservation		Restoration (On-Mesa)	Total
				On-Mesa	Off-Mesa		
Vernal/Road pool	0.26	0.24	3:1	0.66[1]	0.00	0.41[1]	1.07[1]
Freshwater marsh	0.00	0.01	3:1	0.00	0.03	0.00	0.03
Saltgrass grassland	0.19	0.19	2:1	0.00	0.00	0.38[1]	0.38[1]
Non-native grassland	152.82	163.41	1:1	76.47[2]	81.70	2.98	161.15
Disturbed habitat	8.06	10.19	--	--	--	--	--
Developed	0.27	1.27	--	--	--	--	--
TOTAL	**161.60**	**175.31**	**--**	**77.13**	**81.73**	**3.77**	**162.63**

[1] Off-site at the 68.72-acre Lonestar Parcels.

[2] Includes 67.27 acres off site at the Lonestar Parcels (reached by subtracting 0.38 acre of native grassland restoration and 1.07 acre vernal pool preservation/restoration from the 68.72-acre parcels), and up to 9.2 acres of land to be acquired from the Otay Crossings mitigation parcel at Lonestar.

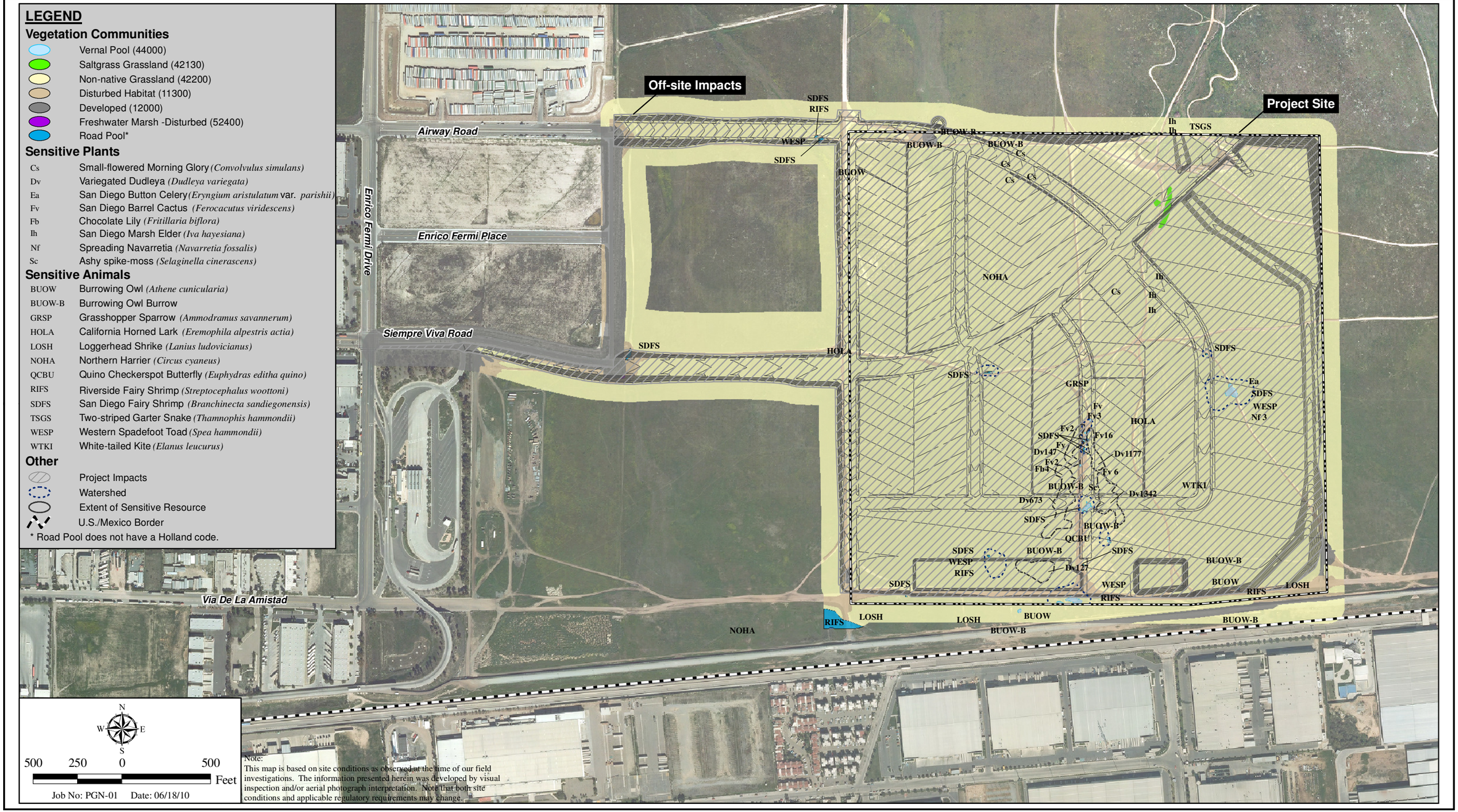


Source: Helix

not to scale

FIGURE 2.2-1

Vegetation and Sensitive Species Location Map



Source: Helix

not to scale

FIGURE 2.2-2

Vegetation and Sensitive Species Impacts

Source: Helix

not to scale

FIGURE 2.2-3

Impacts to Corps Jurisdictional Areas

Source: Helix

not to scale

FIGURE 2.2-4
Impacts to CDFG Jurisdictional Areas

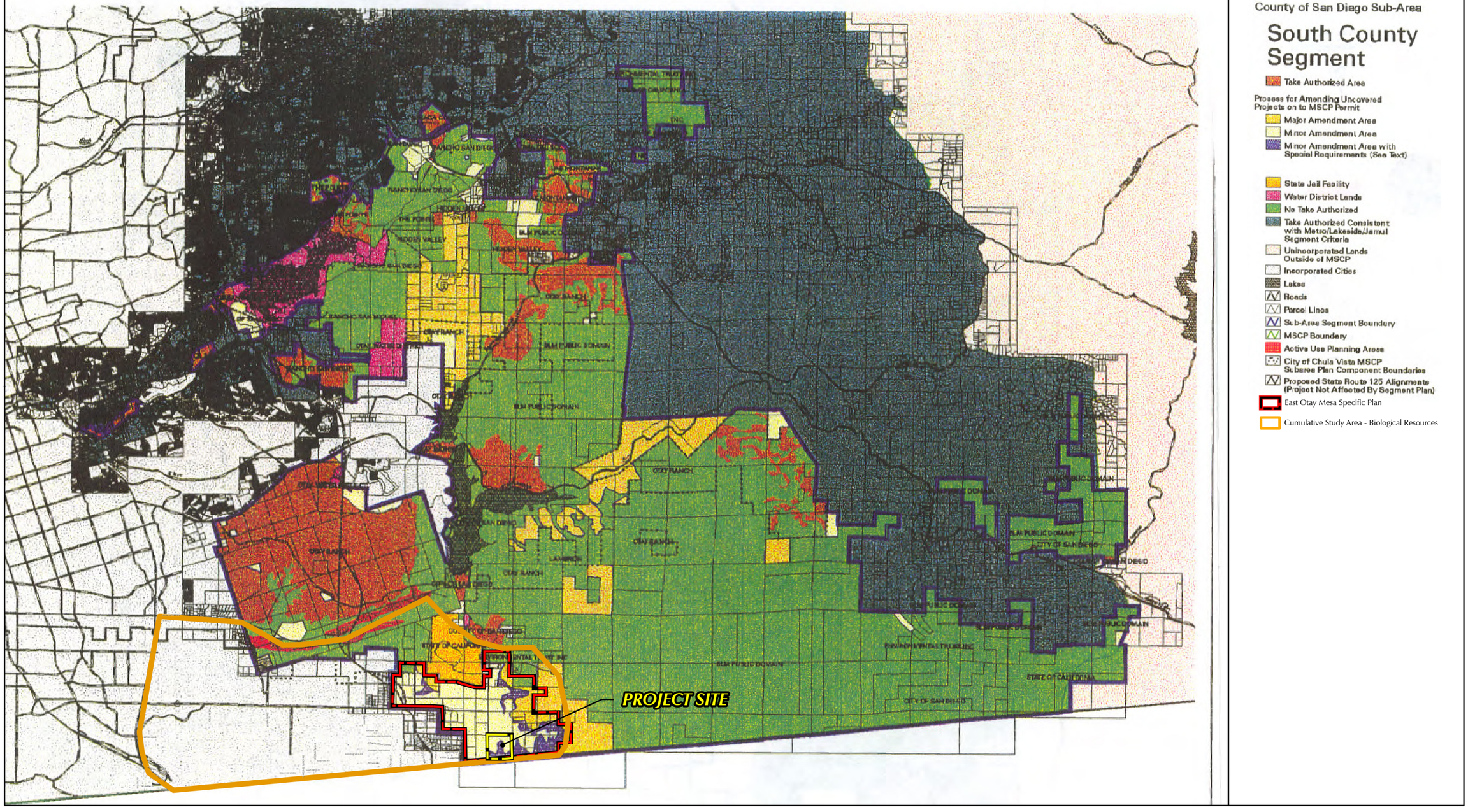


FIGURE 2.2-5
Cumulative Study Area - Biological Resources